

LIBRARY

RL

OF THE

Theological Seminary.

PRINCETON, N. J.

*Ca* PER AS 472 .A84 v.12:1

*Sh* Journal of the Asiatic

*Bc* Society of Bengal

NOV. 1884









JOURNAL  
OF THE  
ASIATIC SOCIETY  
OF  
✓  
BENGAL.

---

EDITED BY  
THE SECRETARY AND SUB-SECRETARY.

---

VOL. XII.

PART I.—JANUARY TO JUNE, 1843.

NEW SERIES.

---

"It will flourish, if naturalists, chemists, antiquaries, philologers, and men of science, in different parts of *Asia* will commit their observations to writing, and send them to the Asiatic Society, in Calcutta; it will languish, if such communications shall be long intermitted; and will die away if they shall entirely cease."—SIR WM. JONES.

CALCUTTA :  
BISHOP'S COLLEGE PRESS.

1843.



Digitized by the Internet Archive  
in 2016



# Contents

## OF PART I.

### No. 133.

	<i>Page.</i>
I.—A Vocabulary of the Scindee Language. By Captain J. B. Eastwick, Assistant Political Agent, Upper Scinde. From the Political Secretariat of the Government of India, .. .. .	1
II.—Report on Upper Sindh and the Eastern portion of Cutchee, with a Memorandum on the Beloochees and other Tribes of Upper Scinde and Cutchee, and a Map of part of the Country referred to. By Lieut. J. Postans, Assistant Political Agent. From the Political Secretariat of the Government of India, .. .. .	23
III.—Various Routes in Scinde, from Official Documents from Bombay, of March 1840; communicated by the Government of India, .. .. .	44
IV.—Report on the Road from Scinde, and from Subzul to Shikarpoor. By Mr. Nock, .. .. .	59
V.—Proceedings of the Asiatic Society, .. .. .	62

### No. 134.

I.—Documents relating to the Gates of Somnath; forwarded to the Society by the Government of India. With plates, .. .. .	73
II.—Extract from the Journal of Lieut. J. A. Weller, Executive Engineer and Officiating Junior Assistant Commissioner in Keemaon, on a trip to the Bulcha and Oonta Dhoora Passes, with an eye-sketch. Forwarded by J. H. Batten, Esq. C. S. Keemaon, .. .. .	78
III.—A perpetual Moon Table. By Capt. Robt. Shortrede, 1st Assistant G. T. S.; F. R. A. S. &c. With plates, .. .. .	103
IV.—On the Treatment of Geometry as a branch of Analysis. By S. G. Tolle-mache Heatly, Esq. .. .. .	110
V.—Description of a new genus of Falconidæ. By B. H. Hodgson, Esq. ..	127
VI.—Proceedings of the Asiatic Society, .. .. .	129

## No. 135.

	<i>Page.</i>
I.—First Report by Dr. Jameson of his deputation by Government to examine the effects of the great Inundation of the Indus. See <i>Journal Asiatic Society</i> , Vol. X, p. 615, .. .. .	183
II.—Barometrical Observations taken to ascertain the Altitude of the Station of Purulia, in the Ramghur District. By Capt. Hannington, 24th N. I. 1st Assistant to the Governor General's Agent, Maunbhoom, .. .. .	226
III.—Brigadier Twemlow on Artificial Fuel. Received from the Agricultural Society, .. .. .	228
IV.—A Companion to the Moon Table. By Capt. Shortrede, 1st Assistant G. T. Survey, .. .. .	231
V.—Account of a luminous Meteor seen at Charka, lat. 24° 06', long. 81° 02' on the morning of the 11th April 1842. By Capt. Shortrede, 1st Assistant G. T. Survey, .. .. .	235
VI.—Analysis of Iron Ores from Tavoy and Mergui, and of Limestone from Mergui. By Dr. A. Ure, London. Communicated for the Museum Economic Geology of India, by E. A. Blundell, Esq. Commissioner, Tenasserim Provinces, .. .. .	236
VII.—Supplement to the Monograph of the Indian and Malayan species of Cuculidæ, or Birds of the Cuckoo family, published in Vol. XI, pp. 898, 1095, et seq. By Edward Blyth, Curator of the Asiatic Society, .. .. .	240
VIII.—Proceedings of the Asiatic Society, .. .. .	248

## No. 136.

I.—Memoir on Indian Earthquakes. By Lieut. R. Baird Smith, Bengal Engineers, .. .. .	258
II.—Remarks on some of the disturbing causes in Barometric Observations. By Capt. Shortrede, First Assistant G. T. Survey, .. .. .	293
III.—On Barometric Heights. By Capt. R. Shortrede, First Assistant Grand Trigonometrical Survey, .. .. .	298
IV.—Catalogue of Nepålese Birds, presented to the Asiatic Society, duly named and classified by the Donor, Mr. Hodgson, [and revised by the Society's Curator], .. .. .	301
V.—Proceedings of the Asiatic Society, .. .. .	314

## No. 137.

I.—An Eighth Memoir on the Law of Storms in India, being researches relative to the Storm in the Bay of Bengal, at Madras, and in the Arabian Sea, of 22d to 31st October, 1842, with two charts. By Henry Piddington, .. .. .	339
II.—Translation of the Naipålia Devuta Kalyåna with Notes. By B. H. Hodgson, Esq. Resident at Kathmandoo, .. .. .	400
III.—Notice of two Marmots inhabiting respectively the plains of Tibet and the Himalayan Slopes near to the Snows, and also of a <i>Rhinolophus</i> of the central region of Nepal. By B. H. Hodgson, Esq. .. .. .	409
IV.—Proceedings of the Asiatic Society, .. .. .	415

	<i>Page.</i>
I.—Extract from Note Book regarding the Genus Paussus. By Capt. W. J. E. Boyes, 6th Light Cavalry, Assistant to the Commissioner, Kemaon and Gurwhal, with four Plates, . . . . .	421
II.—Memorandum on the construction of a Portable Meridian. By E. C. Ravenshaw, Esq. B. C. S. . . . .	437
III.—Descriptive list of some Coins lately received from the University of Christiana by the Asiatic Society. By Dr. E. Roer, Librarian, Asiatic Society, . .	443
IV.—Additions to the Catalogue of Nepal Birds. By B. H. Hodgson, Esq. . .	447
V.—On an improved Simpiesometer, "The Tropical Tempest Simpiesometer," just received in Calcutta. By H. Piddington, Sub-Secretary. Asiatic Society, &c. . . . .	451
VI.—Report on the Government experimental working of the Copper Mines of Pokree in Ghurwal, with notices of other Copper Mines. By G. S. Lushington, Esq. Commissioner, Kumaon and Ghurwal, . . . . .	453
VII.—Brief History of Kelat, brought down to the deposition and death of Mehrab Khan, Brahoee. By Major Robert Leech, . . . . .	473
VIII.—Proceedings of the Asiatic Society, . . . . .	513

# Index

TO PART I, VOL. XII.

<i>Page.</i>	<i>Page.</i>
<p>Analysis of Iron Ores from Mergui, and of Limestone from Mergui. By Dr. A. Ure, .. .. . 236</p> <p>Artificial Fuel, Brigadier Twemlow, on. Received from the Agricultural Society, .. .. . 228</p> <p>Barometrical Observations taken to ascertain the Altitude of the Station of Purulia, in the Ramghur District. By Capt. Hannington, 226</p> <p>Barometric Heights. On. By Capt. R. Shortrede, .. .. . 298</p> <p>Barometric Observations, Remarks on some of the disturbing causes in. By Capt. Shortrede, .. .. . 293</p> <p>Coins lately received from the University of Christiana by the Asiatic Society. Descriptive list of some. By Dr. E. Roer, .. .. . 443</p> <p>Copper Mines of Pokree in Ghurwal, with notices of other Copper Mines. Report on the Government experimental working of the. By G. S. Lushington, Esq. .. .. . 453</p> <p>Documents relating to the Gates of Somnath; forwarded to the Society by the Government of India, .. 73</p> <p>Falconidæ. Description of a new genus of. By B. H. Hodgson, Esq., 127</p> <p>Indian Earthquakes. By Lieut. R. Baird Smith. Memoir on, .. .. . 258</p> <p>Inundation of the Indus. First Report by Dr. Jameson, of his deputation by Government to examine the effects of the great, .. .. . 183</p> <p>Journal of Lieut. J. A. Weller, Executive Engineer and Officiating Junior Assistant Commissioner in Keemaon, on a trip to the Bulcha and Oonta Dhoora Passes, with an eye-sketch. Extract from the. By J. H. Batten, Esq., .. .. . 78</p> <p>Kalat, Brief History of brought down to the deposition and death of Mehrab Khan, Brahoee. By Major Robert Leech, .. .. . 473</p> <p>Law of Storms in India. An Eighth Memoir on the. By Henry Piddington, .. .. . 339</p> <p>Luminous Meteor seen at Charka, lat. 24° 06' lon. 81° 02' on the morning of the 11th April 1842. Account of a. By Capt. Shortrede, .. 235</p>	<p>Marmots of Tibet and the Himalayan Slopes near to the Snows. Notice of two. By B. H. Hodgson, Esq. .. .. . 409</p> <p>Moon Table with Plates, A perpetual. By Capt. Robt. Shortrede, .. .. . 103</p> <p>Moon Table. A Companion to the. By Capt. Shortrede, .. .. . 231</p> <p>Monograph of the Indian and Malayan species of Cuculidæ, or Birds of the Cuckoo family, published in Vol. XI, pp. 898, 1095, et seq. Supplement to the. By Edward Blyth, Naipália Devuta Kalyána with Notes. Translation of the. By B. H. Hodgson, Esq. .. .. . 400</p> <p>Nepalæse Birds presented to the Asiatic Society, duly named and classified by the Donor. Catalogue of Mr. Hodgson's, .. .. . 301</p> <p>Nepâl Birds. Catalogue of Additions to the. By B. H. Hodgson, Esq. 447</p> <p>Paussus, with four Plates. Extract from Note Book regarding the Genus. By Capt. W. J. E. Boyes, .. 421</p> <p>Portable Meridian. On the construction of. By E. C. Ravenshaw, Esq. .. .. . 437</p> <p>Proceedings of the Asiatic Society, .. .. . 62-129-248-314-415-513</p> <p>Road from Sinde, from Subzul to Shikarpoor. Report on the. By Mr. Nock, .. .. . 59</p> <p>Scindee Language, A Vocabulary of the. By Capt. J. B. Eastwick, .. 1</p> <p>Simpiesometer, "The Tropical Tempest Simpiesometer," just received in Calcutta. On an improved, By H. Piddington, .. .. . 451</p> <p>Treatment of Geometry as a branch of Analysis. On the. By S. G. Tollemache Heatly, Esq., .. .. . 110</p> <p>Upper Sindh and the Eastern portion of Cutchee, with a Memorandum on the Beloochee and other Tribes of Upper Scinde and Cutchee, and a Map of part of the Country referred to. Report on. By Lieut. J. Postans, .. .. . 23</p> <p>Various Routes in Scinde from Official Documents from Bombay, of March 1840. Communicated by the Government of India, .. .. . 44</p>

# INDEX TO NAMES OF CONTRIBUTORS

TO PART I, VOL. XII.

<i>Page</i>	<i>Page.</i>
<p>BATTEN, J. H. Esq. Extract from the Journal of Lieut. J. A. Weller, Executive Engineer, and Officiating Junior Assistant Commissioner in Keemaon, on a trip to the Bulcha and Oonta Dhooora Passes, with an eye-sketch, .. .. . 78</p> <p>BOYES, W. J. E. Capt. Extract from Note Book regarding the Genus Paussus, with four Plates, .. 421</p> <p>BLYTH, EDWARD. Supplement to the Monograph of the Indian and Malayan species of Cuculidæ, or Birds of Cuckoo family, published in Vol. XI, pp. 898, 1095, et seq., Documents relating to the Gates of Somnath; forwarded to the Society by the Government of India, .. 73</p> <p>EASTWICK, J. B. Capt. A Vocabulary of the Scindee Language. .. 1</p> <p>Government of India, Various Routes in Scinde from Official Documents from Bombay, of March 1840, Communicated by the, .. .. . 44</p> <p>HANNYNGTON, Capt. Barometrical Observations taken to ascertain the Altitude of the Station of Purulia, in the Ramghur District, .. .. 226</p> <p>HEATLY, TOLLEMACHE S. G. Esq. On the Treatment of Geometry as a branch of Analysis, .. .. . 110</p> <p>HODGSON, B. H. Esq. Description of a new genus of Falconidæ, .. 127</p> <hr/> <p>Catalogue of Nepålese Birds presented to the Asiatic Society, duly named and classified by the Donor, .. .. . 301</p> <hr/> <p>Translation of the Naipalia Devuta Kalyána with Note, .. .. . 400</p> <hr/> <p>Notice of two Marmots inhabiting respectively the plains of Tibet and the Himalayan Slopes near to the Snows, and also of a Rhinolophus of the central region of Nepal, .. .. 409</p> <hr/> <p>Additions to the Catalogue of Nepål Birds, .. 447</p> <p>JAMESON, Dr. First Report of his deputation by Government to examine the effects of the great Inundation of the Indus, .. .. . 183</p> <p>LEECH ROBERT, Major. Brief History of Kelat, brought down to the</p>	<p>deposition and death of Mehrab Khan, Brahoee, .. .. . 473</p> <p>LUSHINGTON, G. S. Esq. Report on the Government experimental working of the Copper Mines of Pokree in Ghurwal, with notices of other Copper Mines, .. .. 453</p> <p>Nock, Mr. Report on the Road from Scinde, from Subzul to Shikarpoor, .. .. . 59</p> <p>PIDDINGTON, HENRY. An Eighth Memoir on the Law of Storms in India, .. .. . 339</p> <hr/> <p>On an improved Simpiesometer, "The Tropical Tempest Simpiesometer," just received in Calcutta, .. .. . 451</p> <p>POSTANS, J. Lieut. Report on Upper Sindh and the Eastern portion of Cutchee, with a Memorandum on the Beloochee and other Tribes of Upper Scinde and Cutchee, and a Map of part of the Country referred to, .. .. . 23</p> <p>Proceedings of the Asiatic Society, .. .. . 62-129-284-314-415-513</p> <p>RAVENSHAW, E. C. Esq. Memorandum on the construction of a Portable Meridian, .. .. . 437</p> <p>ROER, Dr. E. Descriptive list of some Coins lately received from the University of Christiana by the Asiatic Society, .. .. . 443</p> <p>SHORTREDE, ROBT. Capt. A perpetual Moon Table with Plates, .. 103</p> <hr/> <p>A Companion to the Moon Table, .. .. . 231</p> <hr/> <p>Account of a Luminous Meteor seen at Charka, lat. 24° 06' lon. 81° 02' on the morning of the 11th April 1842, .. .. . 235</p> <hr/> <p>Remarks on some of the disturbing causes in Barometric Observations, .. .. . 293</p> <hr/> <p>On Barometric Heights, .. .. . 298</p> <p>SMITH, BAIRD R. Lieut. Memoir on Indian Earthquakes, .. .. . 258</p> <p>TWEMLOW, Brigadier. On Artificial Fuel. Received from the Agricultural Society, .. .. . 228</p> <p>URE, Dr. A. Analysis of Iron Ores from Mergui, and of Limestone from Mergui, .. .. . 236</p>



LIST OF OFFICERS AND MEMBERS OF THE ASIATIC  
SOCIETY FOR 1843.

**President :**

THE HONORABLE W. W. BIRD, ESQ.

**Vice-Presidents :**

THE RIGHT REV. THE LORD BISHOP OF CALCUTTA.

SIR J. P. GRANT.

SIR H. SETON.

H. W. TORRENS, ESQ.

**Secretaries :**

*Secretary*, H. W. TORRENS, ESQ.

*Sub-Secretary*, H. PIDDINGTON, ESQ.

**Committee of Papers.**

LT. COL. W. N. FORBES, B. E.	BABOO PROSONNO COMAR TAGORE.
DR. J. HÆBERLIN.	S. G. T. HEATLY, ESQ.
LIEUT. A. BROOME, B. H. A.	N. B. E. BAILLIE, ESQ.
C. HUFFNAGLE, ESQ.	W. GRANT, ESQ.

---

<i>Curator Zoological Department Museum,</i> .. ..	E. BLYTH, ESQ.
„ <i>Geological and Mineralogical Departments</i> } <i>and Museum Economic Geology,</i> .. .. }	H. PIDDINGTON, ESQ.
<i>Librarian,</i> .. .. .	DR. E. ROER.
<i>Accountant and Assistant to the Secretary,</i> .. ..	W. H. BOLST, ESQ.
<i>Assistant Librarian,</i> .. .. .	MR. L. F. BOUCHEZ.
<i>Taxidermist,</i> .. .. .	MR. F. M. BOUCHEZ.
<i>Assistant ditto,</i> .. .. .	J. NICOLAS.
<i>Treasurers,</i> .. .. .	BANK OF BENGAL.
<i>Agent in London, Professor H. H. WILSON, India House.</i>	
<i>Agent in Paris, Major A. TROYER, 55 Rue de la Pépinière.</i>	
<i>Booksellers and Agents in London, MESSRS. W. &amp; J. ALLEN, Leadenhall Street.</i>	

## List of Members.

---

Bird, Honorable W. W.  
Barlow, Esq. R.  
Beaufort, Esq. F. L.  
Bacon, Esq. G. W.  
Batten, Esq. J. H.  
Bayley, Esq. H. V.  
Birch, Major R. J. H.  
Blundell, Esq. E. A.  
Bogle, Captain A.  
Boys, Captain W. E.  
Birch, Captain F. W.  
Baillie, Esq. N. B. E.  
Bignell, Esq. M. A.  
Bishop, Rt. Rev. Lord  
Bigge, Lieutenant H. L.  
Broome, Lieutenant A.  
Benson, Esq. W. H.  
Baker, Captain W. E.  
Burney, Lieutenant Colonel H.  
Benson, Lieutenant Colonel R.  
Brandreth, Esq. J. E. L.  
Bushby, Esq. G. A.

Cameron, Honorable C. H.  
Cadogan, Esq. T. C.  
Cautley, Captain P. T.  
Campbell, Esq. A.  
Cheap, Esq. G. C.  
Corbyn, Esq. F.  
Conroy Loll Tagore, Baboo  
Cust, Esq. R.

Dunlop, Esq. A. C.  
Durand, Captain H. M.  
Dwarkanauth Tagore, Baboo

Edwards, Esq. W.  
Egerton, Esq. C. C.  
Everest, Lieutenant Colonel G.

Frith, Esq. R. G. W.  
Forbes, Lieut. Colonel W. N. (C. B.)  
Fitzgerald, Major W. R.

Grant, Honorable Sir J. P., (Kt.)  
Grant, Esq. W. P.  
Grant, Esq. J. W.  
Gladstone, Esq. M.  
Goodwyn, Captain H.

Hannay, Captain F. S.  
Hayes, Lieutenant F.  
Heatley, Esq. S. G. T.

Hill, Esq. G.  
Huffnagle, Esq. C.  
Houstoun, Esq. R.  
Hutton, Captain T.  
Hodgson, Esq. B. H.  
Hæberlin, Dr. J.

Irvine, Major A. (C. B.)  
Irvine Rev. C.

Jackson, Esq. W. B.  
Jameson, Esq. W.  
Jenkins, Major F.

Kistonauth Roy, Rajah  
Karr, Esq. W. Seton

Loch, Esq. G.  
Lushington, Esq. G. T.  
Lushington, Esq. E. A.

Maddock, Honorable T. H.  
Masters, Esq. W.  
McQueen, Rev. J.  
Mansel, Esq. C. G.  
McKenzie, Esq. J.  
Mill, Esq. J. B.  
McLeod, Esq. D. F.  
Middleton, Esq. J.  
Macleod, Captain W.

Nicolls, His Excellency General Sir J.  
(K. C. B.) Commander-in-Chief.

Ommaney, Esq. M. C.  
Ouseley, Lieutenant Colonel J. R.

Peel, Honorable Sir L., (Kt.)  
Phayre, Lieutenant A.  
Piddington, Esq. H.  
Pratt, Rev. J. H.  
Prinsep, Esq. C. R.  
Prosono Coomar Tagore, Baboo

Robison, Esq. C. K.  
Ryan, Esq. E. B.  
Ravenshaw, Esq. E. C.  
Rawlinson, Major H. C.  
Rustomjee Cowasjee, Esq.  
Radhakanth Deb, Behadoor, Rajah  
Ramgopal Ghose, Baboo  
Ramcomul Sen, Baboo  
Ramanath Tagore, Baboo



Sanders, Major E. (C. B.)  
 Sleeman, Major W. H.  
 Stacy, Lieutenant Colonel L. R.  
 Seton, Honorable Sir H. W., (Kt.)  
 Stirling, Esq. E. H.  
 Shortrede, Captain R.  
 Spilsbury, Esq. G. G.  
 Strong, F. P. Esq.  
 Sutherland, J. C. C. Esq.  
 Storm, Esq. W.  
 Sut Churn Ghosal, Behadoor, Rajah  
 St. Pourçain, Esq. J.

Taylor, Lieutenant Colonel T. M.  
 Thomason, Esq. J.

Tickell, Lieutenant S. R.  
 Torrens, Esq. J. S.  
 Torrens, Esq. H.  
 Trevor, Esq. C. B.

Walker, Esq. H.  
 Wade, Lieutenant Colonel Sir C. M.  
 Wallis, Rev. A.  
 Willis, Esq. Jos.  
 Withers, Rev. G. U.  
 Wilcox, Major R.  
 White, Major M. G.  
 Winchester, Rev. W.

Young, Lieutenant C. B.



JOURNAL  
OF THE  
ASIATIC SOCIETY.

---

*Report of a Visit to the Pakchan River, and of some Tin localities in the southern portion of the Tenasserim Provinces. By Captain G. B. TREMENHEERE, F. G. S. Executive Engineer, Tenasserim Provinces. With a Map and Section of the Peninsula.*

1. The boundary between our provinces and the Siamese territory at the south and western extremity of Tenasserim, has never been distinctly defined.

After a correspondence with the Court of Bangkok, it had been arranged that an agent on their part should meet Mr. Commissioner Blundell on the Pakchan river on the 1st of March, where evidence was to be heard on both sides, and the question finally settled. The departure of the Commissioner from Maulmain was unavoidably delayed till the 4th of March. At Mr. Blundell's request, I formed one of his party in the H. C. Steamer *Hoogly*, and touching at Amherst and Mergui, entered the Pakchan river on the 10th of March.

2. The entrance is about two miles wide, affording ample room and deep water for the admission of ships of the largest burthen. The numerous islands which range along either shore of this fine river, and the bold hilly country beyond, afford views which would be thought picturesque in any country. For the first ten miles it is very slightly contracted in breadth, and has little of the character of a river, but of a capacious inlet of the sea. To this distance we carried not less than four fathom water, but, for the most part six and seven. After proceeding thus far, we turned into the Malewan river, and anchored at about

one and half mile in a N. W. direction, for the purpose of communicating with the British Settlement of that name. The next day, proceeding eight miles higher up the main river, we anchored in three fathoms abreast the confluence of the great Kaman river, beyond which the channel being much contracted by sand banks, the Steamer could not proceed. From thence we moved in boats, and arrived at Pakchan in eight hours; the distance as surveyed by Captain R. Ross, commanding the *Hoogly*, being thirty miles. The river narrows gradually, and from the great Kaman, passes through level country; approaching Pakchan, hills again appear, and it becomes very tortuous, at which spot it is about 50 yards broad, with a rise and fall of tide of eight feet at the springs.

3. The governor of Pakchan, a Chinaman, informed Mr. Blundell, that the chief of Peechapooree, who had been deputed by the Siam government to meet him, had arrived at Pakchan punctually on the 1st of March; after waiting ten days, he had retired to Chimpohun, on the plain of the east side of the peninsula. It was therefore determined that Dr. Richardson, Assistant to the Commissioner, should go to the chief and invite his return to the projected conference: accordingly, Dr. Richardson and myself, with a few of our own followers, commenced our journey on foot a little after 5 A. M., the prospect of crossing the peninsula being an object of peculiar interest.

Following generally the course of a small stream called the Kraa, which joins the main river at Pakchan, we proceeded by a good and clear road of ten to fifteen feet wide through the jungle towards the Kraa Pass, distant three miles in a N. E. direction. The road here turns to the South of East and the Pass, which is not intricate, leads for some distance along the bed of the rivulet, and terminates to the South-East at six and five-sixth miles from Pakchan. Here the greatest altitude is attained between the valley of the Pakchan and the alluvial plains on the east side of the peninsula, for soon after, at eight hours and seven minutes A.M., we came upon the waters of the Chimpohun, running in an easterly direction towards the gulf of Siam, the country then begins to slope gradually to the East; at eight hours thirty-seven minutes A. M., we halted two hours for refreshment by the side of the Chimpohun, at a spot where there are three or four houses, having the name of Bantapakchan. We here observed a canoe, which can be floated to

Chimpohun during the rains, and if necessary, to the gulf itself. From thence the road continues good. It crosses the Chimpohun very frequently, besides many dry ravines which communicate with it; the banks of these, where crossed by the road have not more than thirty or thirty-five feet of abrupt declivity, the rest of the ground being very regular, and partaking of the general slope of the country. At 3 P. M., having walked seventeen and half miles, we fell in with an elephant, and inducing the driver to take us on, were relieved from further personal exertion. The first eight miles of the eastern slope of the Pass have the greatest fall, after which the descent is easy till we reach the alluvial plain of Chimpohun. Nearing this plain, at 5 P. M., we observed the influence of the tide in the river, and at 5-30 reached Chimpohun. The plain is covered with rice fields, bearing signs of abundant crops as far as could be observed on all sides, and is bounded by a range of hills bending in a curved direction to the South-East. Some of these near the plain have much the same isolated and abrupt character, as the limestone hills near Maulmain. After half an hour's delay, the headman forwarded us on fresh elephants to the camp of the chief, which we found at Tasapaow, three and half miles distant further East, and reached it at 8 P. M., the entire distance between Pakchan and Tasapaow, being nearly twenty-eight miles.

4. We were here hospitably treated, and visited the chief early the following morning. After a slight dinner, Dr. Richardson succeeded in inducing him to return and confer with Mr. Blundell, whom he expressed himself anxious to meet. His encampment was on the right bank of the Chimpohun, where the river is about 180 yards broad, running through a level country over a sandy bed, free from obstructions, and with a rise and fall of tide of about six feet at the springs. The depth of water at 8 A. M. on the 13th of March, was six feet with a rising tide. It communicates directly with the gulf of Siam, from which, by the best information, we were distant five miles. A sea-going boat of about thirty tons was under a shed at this spot; but junks trading on the Siam coast do not pass beyond Tayang, a town four miles East of Tasapaow, and within a mile of the sea. Time would not admit of our going to the coast, as Mr. Blundell and the rest of the party were expecting our speedy return to Pakchan. The distance of Tasapaow from the sea, as above given, may I think

be relied on, having been obtained from one of our own people who had formerly resided some time at Chimpohun. The protraction of my route also, with these five miles added, makes the East coast of the peninsula correspond, within one mile short, with its longitude by Horsburgh's chart. The distance therefore between Pakchan and the coast of the gulf of Siam is thirty-two miles, and the entire breadth of the peninsula at this point from the Bay of Bengal to the gulf, is as nearly as possible sixty miles.

5. After receiving the chief's return visit, elephants were provided to take us back to Pakchan; we started at 11 A. M. and halted for the night on the Chimpohun river at a shed about half way, named Tacumlae, and reached Pakchan the next day, 14th March, at 2 P. M. On the way back, I paid particular attention to the inclination of the country, with the view of forming a probable estimate of the elevation of the top of the Kraa Pass, where the head waters of the Kraa and Chimpohun rise, and I am of opinion, that the difference of level between that point and the plains at Chimpohun and Pakchan does not exceed 450 feet. Along the entire route between these two places, or twenty-three miles, running water was crossed thirty-two times, besides which, there are numerous dry nullahs before mentioned, which would be occasionally unfordable during the rains.

The road is never more than 100 feet above the bed of the river-course; it has an easy slope, and except at the crossings of the streams and nullahs, is now passable by guns; but no part of the road would during the dry season present any difficulty to the passage of an army.

6. Some speculations having appeared lately in the columns of the *Moulmain Chronicle*, on the practicability of carrying a canal across the Isthmus of Kraa, whereby ships might pass by a short route from India to China, instead of round the Malayan peninsula, I am induced to offer some observations, under the idea, that enquiries on the subject might probably be made at some future period.

From the tidal waters of the Pakchan flowing westward to the Bay of Bengal, to those of the Chimpohun running eastward to the Gulf of Siam, I paid as much attention to the slopes and facilities for such a work as the nature of our journey allowed, and while no work of this description, where the physical difficulties are not absolutely insurmountable, ought perhaps to be pronounced impracticable, I have no

hesitation in saying, that the scheme alluded to, is not in my opinion reasonably practicable.

On a rough estimate, I assume 450 feet as the greatest rise of ground between the two seas, and if we suppose the line of road to be 100 feet above the level of the bed of the water-courses of the Pass as they now exist, and deduct that from the above, it will leave 350 feet of excavation, chiefly in solid rock, to be effected at the head of the Pass, to which the depth of the ship channel would remain to be added.

As no ships could come higher up than the second anchorage of the Hoogly, or 25 miles in a direct line below Pakchan, the length of the canal would be increased by that distance, as well, in all probability, by the five miles beyond Tasapaow, as the rivers on that side of the Peninsula are known to be generally obstructed by bars of sand. Both the Kraa and Chimpohun rivers are very small streams at this season, running over rocky beds, and no supply of fresh water could, I think, be depended on from either, to feed such a canal, or that would be sufficient at any period of the year to supply the loss by absorption and evaporation. An approximate section of the ground is given on the accompanying plan, by which it will appear, that the probable cutting for such a canal, supposing its width 100 feet and of rectangular form, would be on the lowest calculation as follows:—

	<i>Length.</i>	<i>Breadth.</i>	<i>Depth.</i>	<i>Cubic Feet.</i>
From the Great Kawan River to Pakchan, .....	25 miles	+ 100 feet	+ 60 feet	870,000,000
From Pakchan to top of Kraa Pass, .....	6 $\frac{5}{6}$ Do.	+ 100 Do.	+ 380 $\div$ 2 =	685,520,000
From top of Pass to a spring marked in the Map, ...	16 Do.	+ 100 Do.	+ 380 $\div$ 2 =	1,605,120,000
From the spring to Tasapaow, .....	5 Do.	+ 100 Do.	+ 180 =	264,000,000
From Tasapaow to the Gulf, .....	5 Do.	+ 100 Do.	+ 50 =	132,000,000
				3,556,640,000
				} Solid feet of Excavation,

which, supposing that one man excavated during the entire work twenty cubic feet per day, and placed it where it was eventually to remain, and that one man's labor is there worth one rupee per day, would cost eighteen millions sterling.

7. Having remained at Pakchan during the 15th, for the purpose of the conference between the Siam Chief and Mr. Blundell, which took place on the morning of that day, we left the place the same evening, and rejoined the steamer again in eight hours. On the 16th, we

dropped down to our first anchorage, and on the same day visited the settlement of Malewan, which is on a branch of the Malewan about seven miles from its junction with the Pakchan. On the flood tide, junks of twenty or thirty tons can approach it; but at low tide there is no water to float the smallest canoe.

Malewan is but a recent settlement, and is particularly interesting, as being the only spot in these Provinces, where people have located themselves for the purpose of collecting tin. Although inhabited only for three years, there are already about 100 Chinese, 160 Malays, and about as many Siamese on the spot, more than 500 in all, including women and children. The surface of the country is pleasingly undulated, having a range of high hills between it and the sea. It possesses a rich moist soil, highly favourable to cultivation. The sugar cane shewn to us was of large size, and the areca tree, which in other parts of Tenasserim does not fruit till the 7th or 8th year, was seen here in flower after being three years in the ground. Two heavy falls of rain occurred while we were in this neighbourhood, and it would appear that its climate, more resembling that of Penang than any other part of our coast, would be well adapted, with the advantages of soil before mentioned, to the cultivation of nutmegs, spices, &c.

8. The Siamese and Malays are occupied principally in clearing for cultivation, and the Chinese are the chief adventurers in tin. The head Chinaman has established a store of provisions, consisting of every description of supply suited to the wants of the people about him, which he exchanges for tin ore, to those who may be industrious enough to collect it. Of this he had three or four tons on hand, from which sample A was taken. It is precisely similar to specimens I have forwarded on other occasions, and consists of pure peroxide of tin, collected by washing from the beds of streams in that neighbourhood.

On the 17th, I proceeded to a spot which one of the Chinamen had fixed on for a stream work, and reached it after walking between four and five miles.

The stream is one of the tributaries of the Malewan, marked No. 1 in the plan. Their principal work was not on the main stream, the course of which we had followed to reach the place, but on a small branch, which then afforded water scarcely sufficient to clean and exhibit a sample of the ore dug out with its sand and gravels before me.



This tin soil consisted of fine grey sand, mixed with quartz and granite pebbles, and was taken from near the surface of the bed of the water-course; it was not here more than eighteen inches deep, for as soon as the iron pick, with which it was loosened, penetrated to the clay, they seemed assured there was no tin below. The subsoil all around is said to contain tin, the deposit of former periods; and in some of their excavations, I observed soil precisely similar to that from which tin was washed on the lower levels. From its occurrence so near the surface in existing water-courses, which from their slope must become rapids during the rains, I infer that tin must be washed down from its source in considerable quantities every year.

The trough used for washing is circular, about eighteen inches in diameter and six inches deep, in which the sand and gravel is piled and washed, as before described, by a rotatory motion of the hand. Specimens of the soil, and of the produce of separate washings are sent, numbered 1. During the dry season, little or nothing is done in collecting tin, but preparations only are made by trenching for considerable distances along the brow, or down the slopes of the adjacent hill, to obtain a fall of water during the rains. Under this the soil is collected, when the sand and pebbles are washed away, leaving the tin behind. Some of these trenches were from ten to twelve feet deep, and one of about three feet deep was nearly 200 yards in length. The fall so obtained saves the laborious process of washing with the trough in a stooping position, which is irksome to the men, but which women and children are said to perform with greater ease.

9. The next day I went again in a Northerly direction five miles, to visit three other localities, where other parties of Chinamen were engaged in similar works. At each of these places, there were from eight to twelve men employed in preparations for work during the ensuing rains. The surface soil is a rich red mould, the subsoil of the same grey sand and quartz pebbles as before, with abundance of tin intermixed, and rests upon granite.

The three spots visited this day have all the same character; from the first the separate washings were less productive than from the other two; but at these the quantity produced each time surprised me, and drew forth an exclamation of pleasure from the Chinamen engaged in collecting it for my inspection. The greatest quantity of clean ore

obtained from one trough full of soil was 2078 grs., while the average was 1235 and 855 grs. The time occupied in each washing is from five to six minutes.

They stated, that in the rains, one man would earn four rupees worth of tin per day. These small parties appeared full of energy and determination to make the most of the advantages before them. About their houses, situated in small clearances in the midst of the jungle, there was an appearance of comfort and cleanliness not often seen on this coast, while their good nature and hospitality is unbounded.

10. The prevailing rock around them is granite, which is seen in situ in several places, cropping out of the soil from the beds of the stream, and in the cuttings before mentioned, where I observed it was a good deal decomposed. I do not find on examination, that in any instance the tin exists interspersed in the granite, but have every reason to confirm the opinion expressed in former reports, of its occurrence in the fissures and cavities of the rock from which it has been removed by disintegration of the enclosing substance. None of the Chinamen have, as far as I could ascertain, penetrated to the principal granite hills, but are content with what they find in the streams at a distance from the source whence the tin proceeds. There doubtless it exists in veins or *vugs*, or cavities, in abundance. The metal being found so near the surface of the present water-courses, the causes which have distributed a rich layer of tin soil in and around them, are assuredly still in action. Fresh veins or cavities loaded with the crystalized mineral are thus becoming constantly exposed to the decomposing effects of the weather, and are therefore to be found by mining at very moderate depths. The stream works described will form, perhaps for long periods, profitable employment to Chinese adventurers, whose system of collection is that to which the Siamese and Malays are accustomed. These productive streams are, however, but the index of what is to be found elsewhere, and if these localities ever attract the European capitalist, of whose notice I believe them to be well worthy, the proper sphere for the scientific miner should be in the hills themselves. There, if a little cautious investigation were previously made by practised men in search of a spot for mining operations, the use of the common horse whim, or the most ordinary draining apparatus, would, in my opinion, in the course of a very short time discover veins, which

it would be very profitable to follow out with more complete and expensive apparatus.

11. After my return from the tin works we left Malewan, and proceeding next day down the river, anchored at the mouth of the Rhenong river, for the purpose of visiting the Siamese tin works and smelting establishment on the Southern or Siamese side of the Pakchan. This tidal creek is nearly dry at low water, but small junks come up with the flood: it narrows considerably at three miles from its entrance, and is very circuitous; after three hours' pull in a boat in a S. E. direction, we reached the settlement of Rhenong.

The leading people here are Chinese, who have a high fenced enclosure about eighty yards square, one side of which is occupied by the smelting establishment. A few women were employed in sifting tin ore\* through a fine sieve. Only one furnace, or large crucible about four feet high, of conical form and three feet diameter at top, formed of baked clay, appeared to be in use, this was well worn, and a new one was there ready to replace it. One pounding or stamping machine, with a tilting bar worked by the foot, the Chinese bellows, and heaps of charcoal, were all the apparatus visible. No tin is collected except during the rains, and the village did not contain more than fifty families in all.

The duty said to be paid to Siam by the Chinaman is six tons of smelted tin per annum, for which he enjoys an entire monopoly. The collectors of the ore are paid a nominal price of two dollars for eighteen viss of ore; but as the payment is made by small ingots of tin, the only currency in use, the actual value received by workmen according to the present selling price of the metal, is eight rupees per hundred viss of ore: the same quantity being at Mergui worth forty rupees. It appeared from the information we were able to collect of the reported arrivals of junks at Rhenong for cargoes of tin, that not more than from sixty to seventy tons are produced per annum. The spot itself having a bold range of granite hills near, with level rice ground between it and the stream, has a very pleasing appearance. A few women were engaged in collecting tin ore in a clear stream running over granite boulders, within a few minutes walk of the place, and the

\* Specimen B.

produce of several separate washings from the trough was taken and noted, the result of which, compared to those of Malewan, &c. will be found below.\* Their principal stream works are a day's journey distant towards the hills, which we could not visit.

12. With the falling tide we rejoined the steamer, and soon after stood between the islands to the Northward towards Bokpyen, one of our own settlements, and visited some of the islands on our way. The most remarkable of these are the bird's nest rocks, of which we inspected two, the Turrets and the Elephants; they consist of fine picturesque masses of limestone rock, which stand boldly up, and present a perpendicular wall to the sea, with deep water all round them. The edible nests of the small Martin, so much prized in China, as to sell sometimes for more than their weight in silver, are found on the sides of chimney-like cavities, which extend from the summit of the rock more than 200 feet above the sea, having a small cavernous opening, with room enough only to admit a boat at low water.

13. Bokpyen, which is marked in Captain Lloyd's Chart, though not included in the sketch herewith, is a neat and flourishing village, containing about 98 houses, or 400 inhabitants in all. They are chiefly of Malay extraction, and occupied in the cultivation of rice, the collection of rattans, fishing, &c. The Bokpyen river produces tin, and during the Siamese rule, large tin works are said to have existed. A channel for running water, the remains of which are now traceable, is reported to have extended over a considerable distance by aqueducts and cuttings, which is presumptive evidence of the abundance of tin in the neighbouring hills. Little or none is collected now; one man brought us a very good sample in a bamboo; from this he said he had sifted the fine grained tin, which he had either sold or smelted, and, not knowing what to do with the large pieces, had kept them.† These were lumps of pure peroxide of tin, measuring from  $\frac{1}{2}$  to  $\frac{3}{4}$  of an inch, without any quartz or earthy matter adhering, and this he called "refuse tin," which was of no use to him: a fair example of the ignorance with which tin working is conducted in these localities.

14. The following is a comparative statement of the produce of separate washings from a trough full of tin soil, each washing occupying

\* Specimen No. 5.

† Specimen C.

Approximate Section of ground showing the lowest existing levels  
between Pakchan and the Gulf of Siam distance 32 miles  
The scale for heights and distances is the same.

at Pakchan  
Summit of Kraa Pass  
99° East L.  
Plain of Champokun  
Champokun S. of  
Tasapaou  
Gulf of Siam



Sketch of a route  
across the Isthmus of Kraa.  
and of some Tin Localities near the Southern Boundary  
of the Tenasserim Provinces.

by Capt G. B. Trementiere  
Executive Engineer  
Moulmein 8 April 1843.

The line of Coast is taken from Capt Lloyd's survey  
and the Pakchan River from that of Capt R. Ross Com<sup>d</sup> H. C. S. Hoagly.

M a l a c c a Archipelago

Gulf of Siam

Territory

S i a m

Boyces Pt

Turaco

Canister

No. 1  
No. 2  
No. 3  
No. 4  
No. 5  
No. 6  
No. 7  
No. 8  
No. 9  
No. 10

Malawang

Ho-yuan-an-oo

Hoagly anchored

Siamese Village

Loyds Point

Eastern Point

Asonno

rapid  
rapid  
rock  
rapid

rise and fall  
level at the  
springs  
rock

clearing

Kraa Pass  
Summit of the Kraa Pass

Pakchan

as springs

Champokun

Tasapaou

Tuy

30

10° North Lat



five minutes in filling from the bed of the stream and cleaning, as exhibited by the specimens sent and numbered:—

<i>Locality Malewan, No. 1.</i>	<i>Weight of separate washings in each in Grains Troy.</i>	<i>Average of each in Grains Troy.</i>	<i>Average of the whole in Grains Troy.</i>
	326		
	404		
	* 320		
	* 327		
	177		
	157		
	163		
	143	252	
Malewan, No. 2,	* 297		
	93		
	* 448		
	120		
	177		
	472		
	180	555	
Malewan, No. 3,	534		
	* 1499		
	* 1100		
	2078		
	1024		
	1173	1235	
Malewan, No. 4,	1076		
	503		
	* 1142		
	* 698	855	650
Rehnong, No. 5,	1081		
	371		
	* 991		
	* 653		
	542		
	555	699	699
Bokpyen, No. 6,	373		
	263		
	319		
	227		
	464		
	1011		
	* 381	434	434

A good specimen collected at Bokpyen, by two men in about twenty minutes, weighed 2040 grains. The specimens marked by an asterisk are sent in duplicate with this report.

G. B. TREMENHÈRE, *Captain,*

MAULMAIN, *8th April, 1843.*

*Executive Engineer,*

*Tenasserim Division.*

*Memoir on the application of Asphaltic Mastic, to Flooring, Roofing, and Hydraulic works in India. By Captain GOODWYN, Engineers. With a plate.*

[This valuable memoir has already been lithographed, in which form many of our readers may have perhaps seen it; but its importance in all points of view is so great, that we have not hesitated to request permission from its talented author to insert it in the Journal.—EDS.]

At no period probably did there exist such an union of essential qualities in the means of constructing as at present. Allusion is here made to the value of the material employed, and the art of working and disposing it, so that in all classes of erections, whether private or public, there is an addition to personal comfort and convenience, combined with permanency of structure at an economical original outlay, estimated with reference to the least possible expence in subsequent maintenance.

The following memoir, in connection with others having relation to the improvements of the age, is drawn up with a view of introducing a most valuable material to general notice, one worthy the patronage of the Government, as well as the attention of the merchant, the planter, and all connected with building of every description. A material which has been extensively used with the most complete success on the continent for some years, and lately equally so in England. The excellent qualities and varieties in the mode of its application have received the approbation of the heads of our Engineer Corps now at home, Generals McLeod and Tickell, and Colonels Hutchinson and Colvin, in consequence of whose opinions I brought it to the notice of the Court, and was by the Directors permitted to bring some to Calcutta to be



submitted to experiment. This is sufficient authority for my advocating its adoption, and constitutes a guarantee for its future success in India. I will here slightly anticipate the subject by noticing the result of an experiment which I undertook, to prove the efficiency of the substance to resist great heat, lest any sceptic should stop short of a full investigation of its merits, under an idea, that its component parts being bitumen and pitch, it would not answer in India.

A section of prepared flooring in a wooden frame 12''+6'' with a surface of 3-8'' of mastic was placed in a large oven (used for reducing the asphalt to powder) with a thermometer which directly rose to 230°, and though kept in for six hours, it presented a surface at the end of that time quite free from grease, proving that the pitch, the proportion of which is small, was not drawn out by the great heat, the extent of which I could not ascertain, as the thermometer tube broke shortly after insertion. A very few minutes after being spread in a fluid state, it again resumes its original density, which is such, that at 100° Fahrenheit, it resists all impressions from ordinary force. How frail and perishable are the floors and terraces of ordinary construction? In many situations unable to resist the wear and tear to which they are exposed from a variety of causes, such as the friction of stores and other heavy articles in magazines and store rooms, the dragging to and fro of boxes, cots and musquets in Barracks, &c. &c., whilst public as well as private property suffers considerably from the facility of access to white ants and damp through the slightest crevices in floors. Who is not aware of the rapid increase of the smallest hole in a terrace floor, and of the difficulty of efficient repair from the want of combination between the new and old material? It must surely then be no small matter of consideration, the employment of a material which offers a remedy for these evils, and affords a means of putting a stop to the constantly recurring heavy outlay on repairs.

It is well known, that the use of a bituminous cement was common in ancient structures, and history informs us, that the walls of Babylon, that wonder of the world, were cemented with hot bitumen.\* In the

\* The Museum of the Society contains four bricks from Babylon, presented by Mr. Rich, and marked with the arrow-headed characters. On the reverse of these the bituminous cement is yet partially adhering, and upon examination, its chemical characters were found closely to correspond with those of Captain Goodwyn's Asphaltic Mastic.—EDS.

destruction of some remains of fortifications, supposed to be of Roman erection near Pymont about 45 years ago, so great was the tenacity of the work, that it was not pulled down without the aid of gunpowder, which circumstance led to an important discovery; it was observed that the cement resembled the asphaltic rock of Pymont, about five miles North of Seyssel at the foot of the Eastern side of mount Jura, on the right bank of the Rhone in the department de L'Ain. Several applications of the substance were immediately made, and the experiments on its properties as a cement for building masonry and keeping out damp succeeded entirely, since which, the working of the material has become of great importance. In the immediate vicinity of the asphaltic rock is obtained a peculiar kind of mineral pitch, which mixed in certain proportions with the asphaltic rock, forms the mastic, the subject of this memoir. Mr. Claridge, an English gentleman, has taken out a patent for it in England, and is most successfully bringing it into general use under the sanction of the Commissioners of woods and forests.

The surface of the ground in the locality of its discovery is covered by a molasse, consisting of silicious gravel and bitumen intercepted by deep ravines. A mass of calcareous asphaltic rock is situated between two of the ravines, the external appearance of which is whitish, but internally it is of a deep brown color. The asphaltic rock is equally diffused throughout the rock, in some places more or less saturated, but in others the calcareous matter is quite pure,\* leading to the conclusion, that the asphaltic rock is ramified in veins in the mass under the molasse. The calcareous asphaltic rock is not stratified, fissures are seen intersecting each other in all directions. Various are the opinions of its formation, but the following is the most probable,—that it has been generated by heat naturally acting on the bituminous matter below strata of carbonate of lime; some of the bitumen has passed up and mixed with the lime, by nature adjusted in just such proportions as the lime would absorb, thus has been effected by a natural force, what by art could not have been, and it is this which renders this material so far superior to any manufactured article.

The resinous and sulphuric particles have passed up to the surface and formed a crust, so that the inflammable qualities, as well as the

\* Bulletin de la Société Géologique de la France, Vol. VIII. p. 138.

naphtha have been destroyed by volcanic agency, and the material is not liable to ignition. The calcareous asphalte contains from 15 to 18 per cent. of bitumen, the remainder is carbonate of lime. The bitumen from the results of experiments of a French chemist is found to be a compound of

Resinous petroliferous matter,	...	...	60 to 70
Carbon,	...	..	30 to 35

It is from the carbon that the dark color and property of hardening in the air arises which renders it so useful in the arts. The spaces below the carbonate of lime are fissures containing the mineral pitch, which is formed of the heavier particles of bituminous matter and carbon in another form, probably having experienced greater heat. As used in England and the continent, the asphalte is reduced to powder by baking, and being mixed with a proportion of about one-tenth its weight of the pitch and a fine grit, is reduced to a semifluid state, and poured on to the spaces or moulds prepared.

For exportation, however, the substances are formed by the Company in England into a mastic, and sent to distant parts in blocks of a cwt. each; by this means it is rendered useful to those who may not have had the advantage of witnessing the mode of application in England, as the mastic has merely to be heated, and laid down in the way which will be described hereafter. The mastic possesses nearly the hardness of stone, but preserves a certain elasticity which prevents the surface from wearing or chipping, and carriage wheels and horses' hoofs cannot disturb the evenness and regularity of its surface. Not the least of its valuable properties as a material for building purposes in India, is the facility of its removal from place to place; after having been laid down as a terrace in one building for years, it may be taken up, and requires merely to be reheated to be laid down elsewhere with equal utility. It is anti-electric, which makes it valuable for roofing purposes, and is not inflammable, the quantity of pitch being so small. The late fire at Hamburg is proof of the non-inflammability of the material, for the roofs of many houses were terraced with it, and great alarm existed lest these roofs should burn and cause more devastation; they fell in solid masses unconsumed, and instead of serving as fuel, extinguished in their fall, the flames beneath them. It is wholly impervious to moisture, and can be extended indefinitely, and

and even where joints are necessary they can be so closed as to present a continuous surface; neither does it impart taste, smell or color, to any liquids that may come in contact with it when employed to line tanks, vats, reservoirs, &c. Having thus stated its origin, composition and essential qualities, I will proceed to the modes of its application.

The purposes to which it has been applied in France are so extensive and various, that they first claim attention. The Chevalier de Pambour states, that the pavements in several crowded thoroughfares of Paris have been made of this substance for the last six years,\* and are now in excellent order. It has resisted the oscillation on suspension bridges and the varying temperatures of heat and frost, the asphalt being on such structures as perfect as the day it was laid down. For roofing edifices, lining water reservoirs, and paving stables it has been particularly useful, having been laid down seven years in the stables of Cavalry Barracks. It has been extensively applied in the fortifications of Lyons, as stated by M. Gahan, a Captain of Engineers, also at Lisle and Vinceunes, and the Artillery have covered the roofs of warehouses several years since in the arsenal at Douai, which have withstood all weathers. The naval department also have made numerous trials of it in the various buildings at the port of Toulon, and it is being introduced into the other ports of France. The pavement formed of it resists better than stone the friction of chains in Dock Yards; and in Jails and Hospitals it has been used not only on account of its durability, but that it keeps particularly clean, and ablutions are performed more easily on it. The material is also used on the "Pont Royal," and "Pont de Carrouse," on the areas round public fountains, in the court yards and extensive floors of colleges and churches.

It has been employed as a cement, and is more particularly valuable under this head for hydraulic works; several large tanks have been constructed in Paris with it. The mode adopted has been to cover the faces of the bricks that were to be exposed to the water with a very thin coat of asphalt; they were set in fluid mastic instead of cement, which was also poured into spaces, left for the purpose, of one-fourth between the inner and outer bricks forming the side walls as

\* This was stated in 1840.

the work advanced. The bottom was afterwards covered with three-eighths of the mastic. Its use as a cement for hydraulic purposes is not new, for Buffon in his *Natural History*, article "Bitumen," says, "J'ai fait enduire il y a trente six ans un assez grand bassin du jardin "d'histoire naturelle qui depuis a toujours tenu parfaitement l'eau." That Buffon did so write is stated in a pamphlet called "Observations generales sur les mines bitumineuses du Parc de Pyrimont." In the "Place de la Concorde," in the centre of which the Egyptian obelisk is erected, about 24,000 square yards of most magnificent pavement are laid down of asphalte in elegant mosaic work, the fluid substance was spread in moulds of bar iron of the required pattern, which in this instance is alternate squares of black and white, each square having a circle of the opposite color to itself, in the centre. At the estate of the Baron de Montmorenci is a conservatory floored in the most splendid manner, the substance being formed into patterns of foliage and scrolls, with a rich Grecian fretwork border. In London it has been used in several places; the noble piece of pavement at Whitehall and the carriage drive to the Ordnance Office may be cited as examples. The roofs and terraces of several noblemen's houses are covered with it, and its efficiency universally acknowledged. In the manufacturing towns, the floors of large workshops and store-rooms are laid with asphalte, and the terraces of many sheds of railway stations. The whole of the arches of the Greenwich railway are covered with it, with a view of preserving that extensive viaduct free from damp. It is used as a foot pavement in many of the metropolitan parishes and in country towns also, and one of the principal streets of Liverpool is paved with it. To such a mass of evidence of the great utility and value of the material, as it has been applied in Europe, there is to be added the experiment of its efficacy as lately laid down in Calcutta, the Court of Directors having permitted the writer of this memoir to bring out a ton of the mastic for the purpose of testing its fitness for the public service. Petroleum oil is to be found in the neighbourhood of Rangoon, and on the Irawadee N. E. of Pegu and elsewhere, which substance, after the naphtha is distilled from it,\* will answer as a substitute for

\* The price gained for the naphtha might cover most of the expence of procuring the Petroleum. Limestone impregnated with bitumen, dried, ground and mixed with its own weight of coal tar is an admirable cement, and will form a most desirable terrace; its mode of using, the same as asphalte.

the mineral pitch and render the asphalte cheaper to use in India, as the pitch need not be exported. In case some such expedient should be resorted to, I will here annex the cost of the separate material, as well as of the mastic or compound as sold by the Proprietors in London.

1 Ton of Asphalte powder	...	...	...	£5	0
Cask, &c.	...	..	..	1	4
Mineral Pitch, (proportion 2 cwt.)	...	..		1	18
				<hr/>	
Total,...				£8	2

The mastic is in blocks of 1 Cwt. each  $18 \times 6 \times 4$  and £6 10s. per Ton; with the mastic however a little pitch is necessary to flux the first quantities when using, as will appear presently.

1 Ton of Asphalte, or	..	20 Cwt.
Fine Grit,	...	8 do.
Pitch,	...	2 do.
<hr/>		

Total 30 Cwt. will cover a space of 400 feet  $\frac{3}{8}$  thick for flooring. Exported in large quantities the cost of 100 superficial feet would be from 12 to 15 Rupees, exclusive of the substratum of concrete.

#### *Instructions for use.*

The mastic being ductile, great care must be taken to have a good foundation of concrete, or lime gravel, or broken bricks, with a thin coat of hydraulic mortar over all, the surface being made level: on this the mastic in a semifluid state is laid  $\frac{3}{8}$  in thickness.

#### *Mode of preparing the Mastic for use.*

In the absence of a proper cauldron, such as is shewn in Fig A. a large pitch pot may be used over a strong fire; the blocks are broken up to the size of 5 or 6 ins. cube, and put into the cauldron with 1 per cent. of pitch to flux the lower layer; more mastic is put in by degrees when the first quantity is melted, which will flux the rest in succession, care being taken to stir it the whole time with the instrument shewn at B.

When the Cauldron is full or a sufficient quantity melted, and it has assumed the consistency of jam, it is fit for use. If the work is ex-  
to have been fixed only with respect to existing *aurangs*: new ones

tensive, a number of cauldrons should be heated at once, as one of the indicated dimensions will not lay down more than 70 supl. feet.\*

In laying it down, a lath of the required thickness of the coating is placed across the floor or roof prepared as above, which from the wall or curb, as the case may be, should divide the whole space into compartments of about  $2/6$  wide. It is necessary before laying down the mass to cut a small channel (if for a floor under the wall, if for a terrace close to the curb) of 2 ins. wide and 1 deep, into which hot mastic should be poured, and taken up again when settled in order to warm, and enable the whole to bind and adhere at the edges. Into the compartments above-mentioned the mastic is poured with a large ladle, the bowl of which should be a foot in diameter and 6 inches deep, each ladleful, as it is poured in, is rubbed from the centre towards the wall or curb with a wooden float (made of cask staves), and a smoothing rod of 3 feet long and 2 feet square is applied to level the surface by a man immediately in rear of the one who uses the float, who also whilst the substance is still hot sprinkles a powder on the surface through a very fine sieve, composed of the finest sand and unslaked lime, reduced into an impalpable powder in equal quantities, which is rubbed in with a flat board, and gives a white surface to the terrace which does not wear off. The surplus is carried forward with such a hand brush as the figure shews, at C as soon as the liquid material is smoothed. Care should be taken to force the substance well into edges and joints, and in removing the gauge rod not to lift it, as it may raise the asphalt with it; but by a gentle tap to loosen it horizontally from the mass. In laying down at two different times, when the first layer has had time to harden, the edge must be warmed with a little hot material laid on for a minute and removed, the work then to be proceeded with directly. If a roof is covered with wood, coarse canvas should be stretched over it and nailed, and the mastic laid on that, finishing it off with a fillet, as in D of the plate. Store rooms and magazine floors should be  $3/4$  inch thick, stables  $4/8$ , and carriage drives 1, coverings of arches  $3/8$ .

\* The cauldron must not be left standing, as the material will burn.

*Contributions towards a History of the Development of the Mineral Resources of India.* By S. G. TOLLEMACHE HEATLY, ESQ.

---

No. 2. *Memoranda relative to the working of Iron in Bengal.*

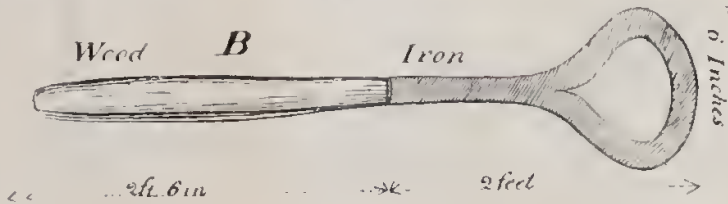
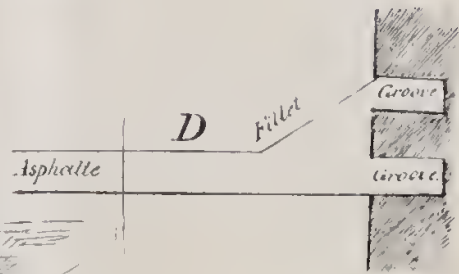
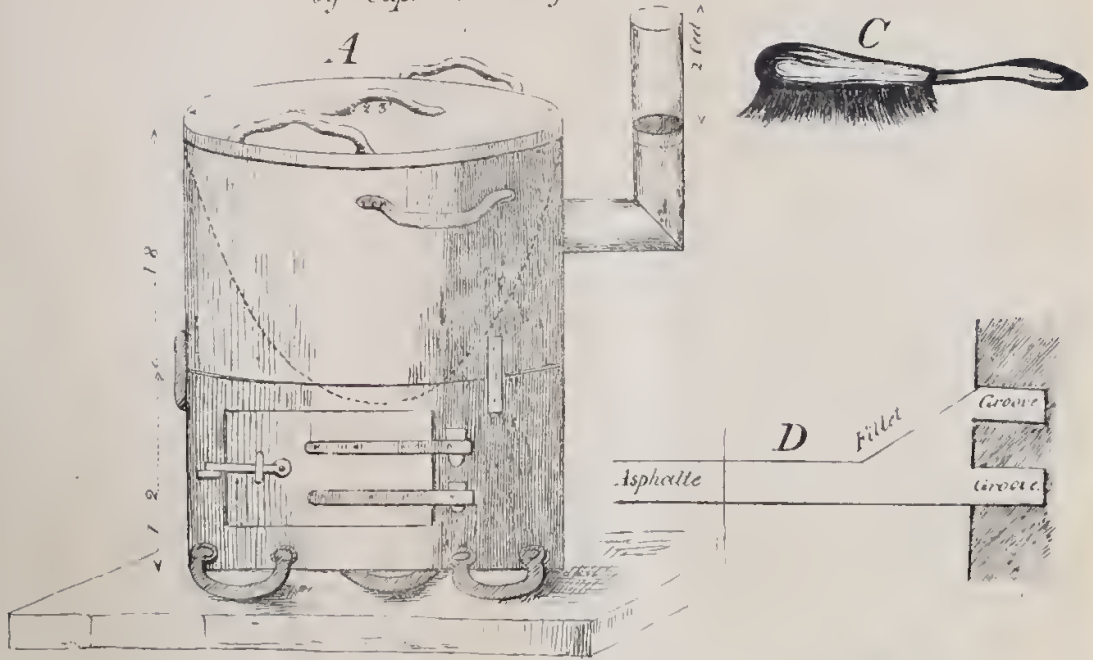
The existence of iron in the districts of Balasore and Beerbhoom, seems to have been known at the earliest period of British rule in the country. With regard to Balasore, the following passage occurs in Captain Alexander Hamilton's Account of a Voyage to the East Indies in 1708, [vol. 1, p. 395] :—

In two days I travelled from Badruc to Balasore, and saw nothing in the way but things common and indifferent, the product of the country being corn, cloth, *iron*, anise and cummin seeds, oil and bees' wax. Iron is so plentiful, that they cast anchors for ships in moulds; but they are not so good as those made in Europe.

In Beerbhoom, iron manufacture seems to have been of not less antiquity. The ore which abounded in the district was dug out and collected by a set of men, who sold it to the *beparries* or itinerant dealers. A trifling contribution was levied on these miners by the Rajah within certain limits, and by some other landholders in their estates. The ore was carried by the *beparries* to established markets called *aurungs*, where it was purchased by the smelters, whose furnaces or *saals* adjoined the *aurung*. At these markets the Rajah had officers who levied a duty from the smelters in proportion to the quantity manufactured: part of the levy was made at the *kot-saal* or roasting furnace, and part at the *khamar-saal*, where the iron was finally prepared for use. The whole of the collections thus made was entered under the head of *loha mahal*, and was kept distinct in the Rajah's accounts from the rent of the land in which the *aurungs* lay. The Rajah again paid a certain assessment on his profits to Government, which assessment was also designated by the term *loha mahal*. The same item of Government accounts comprehended also the payments made by the few detached landholders, to whom I have before alluded as imposing duties upon the miners in their estates. This detail will I think, in conjunction with the narrative that follows, shew clearly, that the right of ownership of the iron was



*Cauldron and instruments used in  
laying Asphaltic floors  
by Capt<sup>r</sup> Goodwyn B.E.*





vested in the sovereign authority, the zemindars only claiming property in the ore by right of consideration paid into the treasury. Further, the right to the mineral products of the land was distinctly separated from the right of cultivation on the surface.

In 1774 a proposal was submitted by Indernarain Sermono to the Burdwan Council, and by them to the Presidency one. The correspondence is as follows :—

---

*The Burdwan Council to Government.*

\* \* We transmit you copy of a proposal, which has been delivered to us by Indernarain Sermono, for clearing away the jungle, and manufacturing iron in a mountainous part of the district of Beerbhoom, together with the sketch which accompanies it of the tract of country, for the lease of which he has applied. We beg leave to submit it to your consideration, and have only to observe, that by an inspection of the Mofussil accounts, none of the places mentioned within the boundary he has described, appear in the jumma of 1178, and that from the inquiries we have made, we believe that tract of country to be in the unfruitful condition described by him.—19th September, 1774.

---

*Indernarain Surma's Proposals.*

In the province of Beerbhoom, there is a considerable tract of mountainous country overrun with jungles, and which, in its present uncultivated state, serves no other purpose than that of a harbour of *Choars*, who live upon plundering the inhabitants of the cultivated lands. Within this space, there was formerly a village called Hatgatchya, situated about a coss south of a hill called Monsa Pahr (both in the Pergunna of Mallarpore). At first this village was much injured in 1174 and 1175 by the depredations of the *Choars*; and in the year of the famine, the whole of its inhabitants deserted the country around the village. On the north side three coss, on the west three coss, on the south three-quarter of a coss, and on the east two coss is an entire jungle, and yields no revenue. Accompanying is a sketch of it. This tract of country, in many parts of which iron ore is to be found, I request the lease of, on the following terms :—

The lease is to be granted to me for 7 or 10 years; for the first year, on account of the great expense which I shall incur by cutting the jungle

and erecting *saals* (or smelting places), I can pay nothing. For three following years I will pay 2000 Rs. per annum, and for the remaining years of the lease, I will pay 5000 Rs. per annum, which shall be in full of all rents or customs whatever.

I will engage, if business succeeds, to supply Government with what iron they may want at the bazar price of the time they may demand it.

I will not force any ryots from the Malgoozary lands, nor give protection to any who may desert with arrears of rent due to the farmers.

The *Choars* and mountaineers, who at present infest the Malgoozary lands, and by their violence cause the ryots to desert, will themselves engage in the working of iron. They gave me assurance of this, when I was lately in that country. I have travelled over the greater part of the country described in my sketch; I am confident no part of it is either included in the jumma of any of the present farmers, or yields any revenue to Government; but should I be mistaken, and it be hereafter discovered to contain any jumma lands, I will readily pay the highest rent that has been received from it since the beginning of 1178.

If the above terms are accepted and a grant given me—should Government, at the end of my lease, think proper to take it into their own hands—in consideration for the expense and trouble I shall have been at, I request a preference in farming it. In case they should not deem this advisable, I request to be allowed, for the expense of all the buildings I may have erected, whatever shall be determined to be their value by an Ameen sent by Government.

---

*Government to the Burdwan Council.*

We approve of the proposals offered you by Indernarain Surma, for clearing a part of the waste jungle lands of Beerbhoom, and manufacturing iron; and authorize you to grant him the necessary deeds accordingly, receiving from him such writings in return, as may bind him to the performance of his engagements with Government, and the observance of the conditions he himself proposes.—23d September, 1774.

---

Nothing more with reference to this attempt appears on record. Perhaps the speculation was of too sanguine a complexion, as the high rents offered lead us to apprehend, and was silently abandoned on second thoughts by the projector. One thing is, however, proved by it, and that is the *loha mahal* already accruing to Government seems

to have been fixed only with respect to existing *aurungs* : new ones might be founded and brought into operation by the enterprize of individuals on their payment of a consideration to Government. The farmers of the existing *aurungs*, among whom the Rajah of Beerbhoom was the principal one without comparison, do not seem to have been at all consulted as to the lease. They could not therefore have had any right to the mineral product beyond what was specifically granted by Government, for the amount of consideration received. I am anxious to draw attention to this fact, as this very pergunna of Mullarpore became subsequently the scene of a hotly contested law-suit, involving the tenures of these *loha mahals*.

The next attempt was more fortunate. It was by Messrs. Motte and Farquhar. In all similar transactions of that period, one partner was, for obvious reasons, chosen from among the influential residents of Calcutta. His watchful presence at the focus of intrigue was required to defeat the machinations of interested parties, and enable the others, the working bees, to pursue their speculations in comparative quietness. To this *patron*, his *clients* could with ease afford a share of the proceeds at a time when the profits of trade were enormous, and he returned them, what was then indispensable—political protection. Thomas Motte, the patron of the firm in the present case, was the Superintendent of Police in the city, and an intimate friend of Warren Hastings. He had been employed in 1766 by Lord Clive, on a mission to Sumbhulpore, to open a trade in diamonds with that country ; a previous attempt by Captain Mallock, under the direction of Henry Vansittart having failed. Motte's endeavours were equally unsuccessful,—a result which he attributed to the indolence of the inhabitants, and the iron rule of the Mahrattas, who at the period held the country as far as the Soobunreeka. An account, interesting in all its features, of this expedition drawn up by Motte, appears in the Asiatic Annual Register for 1799. He was an enterprising character, though he did not seem to take much interest in the iron speculation about to be narrated : and from some of the partizan pamphlets that were showered about so thickly during Hastings' trial, I learn that he must have died a little before it, broken in spirit and fortune.

John Farquhar is not unfamiliarly known to many of my readers as the individual who subsequently purchased Fonthill Abbey, from the cele-

brated Beckford. His peculiarities, his parsimonious habits, his shrewdness, his eye ever watchful over his interests, were sketched with great felicity in that cleverest of periodicals, Knight's Quarterly Magazine, in "An unpublished episode in the Life of Vathek."

Steel through opposing plate the magnet draws,  
And steely atoms culls from dust and straws ;  
And thus our hero, to his interest true,  
Gold through all bars and from each trifle drew.

But the qualities which emphatically make *the man*, as distinguished from the merely social man—the bold speculative genius, the independent character, the untiring perseverance, the readiness to grapple with obstacles, the skill to overcome them—these do not fall within the province of the light *littérateur*. They are written in an alphabet and a language of their own, impressed in indelible characters upon the freedom, the national character, or the commercial prosperity of the country, where such men have existed. They may be forgotten, or they may become inappreciable to careless observers in the lapse of years ; but they continue to exert an influence, not loud but deep, through time—as surely as are propagated the undulatory impulses

From world to luminous world afar,

though infinite to the failing sense may seem the spaces between. Such qualities mingled in the character of John Farquhar : they won for him prosperity in his lifetime : and respect from those whose respect compensated for the gibe of the jester.

The Memorial submitted by these gentlemen to the Council of Warren Hastings, I subjoin entire :—

HON'BLE SIR AND GENTLEMEN,—Having the greatest confidence that any scheme proposed for the advantage of the Hon'ble Company, or for the good of this country, will always be received in the most favorable, and discussed in the most candid manner at your Hon'ble Board, we beg leave to offer to your consideration the following plan, for casting the H. C.'s shot and shells in Bengal, and for working a lead mine lately discovered in Ramghur.

The first part of our plan, you well know, Gentlemen, is no new scheme ; for it appears by the following quotation from a letter of Lord Clive and

the Select Committee in the year 1765, that the casting of shot and shells in this country had been deemed by the Company an object of importance. "The iron-founder whom you sent out in the Kent died on his passage to this place; but as the casting of shot and shells in this country is an object of great importance, we strongly recommend that you will supply the loss as soon as possible, by sending three or four persons well versed in that business, that our whole design may not be frustrated by such an accident in future."—[*No. 86 of Appendix to Report from the Select Committee of the House of Commons, Vol. 1.*]

In consequence of this application, a Mr. St. Quintin was sent out: but he likewise died a short time after his arrival.

We suppose that on account of the death of those two founders, and of the great expense of the cannon foundry, the thoughts of this undertaking have been laid aside: for we conceive that every reason which at that time made it to be looked upon as an object of importance has ever since remained equally forcible, and the present aspect of the affairs of Europe appears to us a very powerful additional one.

Besides the advantages which the Honorable Company proposed to themselves by erecting an iron foundry in Bengal, we beg leave to mention some others, which we have reason to imagine were not at that time thought of. Should iron trucks, lately introduced for garrison gun carriages, be approved of by the Board of Ordnance, the supplying of them here would certainly be very desirable.

But the greatest object, and which perhaps in time may be esteemed of considerable importance not only to the Company, but even to the nation, is the casting of cannon and mortars of a quality, superior to that of the ordnance of any other state. For amongst the various ores produced in this country, there is one found in Beerbhoom, and in great abundance in Ramghur, which yields an iron so extremely soft, as to be fit for few of the common purposes of life: but this property renders it in an eminent degree superior to all other kinds, for almost every work in cast iron, and particularly for the fabrication of cannon.

This quality the celebrated M. Reaumur, M. Buffon, and some others of the most eminent French naturalists and mineralogists, have been long endeavouring to give to cast iron, principally with a view of improving the artillery,\* and their labours have been much approved of by the Ministry. The same thing has been lately attempted in England, but without much success. The only iron ore that we know of, possessing nearly the same

\* Witness two Memoirs by M. Buffon; the one on the "Smelting of Iron Ores," the other entitled, "Observations and Experiments made with a view to improve the Art of casting Iron Cannon. Paris 1775."

property, is one, amidst upwards of 60 different kinds, described by the Abbé Chappe, the produce of Siberia, and he regrets that the iron of it is not more known in France.

Now we conceive that by casting that peculiar iron in the form of kentledge, and by exchanging it with that of the Europe ships, such quantities of it could be sent to England, as would be a valuable addition to the Honourable Company's commerce, and the Europe kentledge might be sold to advantage for the use of country ships: for besides its being as admirably adapted to the fabrication of artillery, it would be of equal value for several other uses, but particularly for wire-drawing, and we flatter ourselves that it might be the means of securing to some of the British manufactures that superiority which they have hitherto possessed over those of every other nation.

The benefits which would accrue to this country in particular from the establishment of iron works would undoubtedly be very considerable, for at present vast numbers of cast iron pots, frying pans, and other utensils are yearly imported into Bengal from China, and are sold at very high rates; but by supplying the market with these articles manufactured within the Company's possessions, not only considerable sums would be saved, but a valuable branch would be added to the exports of this settlement. Cylinders for sugar mills, boilers for sugar works, salt works, saltpetre works, and for several other purposes are much wanted: and there is no doubt but they would greatly contribute to the improvement of those manufactures. Cast-iron rails, pale-gates, and rails for staircases and balconies, would add much to the beauty, as well as to the convenience of the houses in Bengal. And every merchant will allow, that iron kentledge for the country ships, especially such as are employed in the cotton trade, is an object of the greatest importance to the commerce of this port. How far it would be politic to give such encouragement to the manufacture of bar iron and steel in the Western Provinces, as would enable them to supply all Bengal, and consequently to prevent the other European nations from importing any, you, Gentlemen, are best able to judge. This would undoubtedly be highly beneficial to the country, both by furnishing the implements of agriculture readier and at a much cheaper rate than they can be procured for, at present; and by saving very considerable sums which now go to Balasore for Mahratta iron and steel, with which last article these provinces, you well know, Gentlemen, are very ill supplied. And certain it is, that this could in no way affect the interest of the mother country: for it is well known, that instead of being able to exports iron and steel of the produce of Great Britain, she is obliged to import at least two-thirds of what is used in her own manufacture. Nor will the increase



of iron works in England ever be judged good policy, as they have already destroyed some of the finest forests of oak, and as the workmen required for them can be employed to greater national advantage in the finer manufactures. We know that the French have, within a few years past, erected some very fine forges in the Isle of France, whether with the view of being able to undersell every other nation trading to India, in the articles of iron and steel, or of supplying the country powers with artillery in the most secret manner—we cannot pretend to say: but from the extreme lowness of the price of slaves there, we think it highly probable, that they will be enabled to do both as soon as the islands are sufficiently cultivated to produce provisions in plenty for their inhabitants, especially as it appears from what M. Bougainville (in his Voyage round the Earth,) says of those works, that their owners are supported by the French Government.

We shall now, Gentlemen, take the liberty to offer our sentiments with respect to the utility of working the lead mine in Ramghur. This mine consists of one small vein, which produces the ore known to mineralogists by the name of Potter's lead ore, because instead of being smelted on account of its metal, it is usually sold with greater advantage to those artificers for the purpose of glazing their wares. Now as no people make more use of earthenware than the natives of this country, and none are worse provided with materials for glazing it, the only means of rendering it neat or cleanly, or capable of containing fluids for any considerable time, we presume it would not be very difficult to introduce this improvement into common use. Besides, as all lead ores are known to contain a certain portion of silver, though generally too small to bear the expense of extracting it, we might perhaps find this ore worth treating upon that account, since fuel is remarkably cheap in Ramghur, and since the litharge into which the lead must be converted in order to obtain its silver, would answer still better the purpose of the potter than the raw ore.

Another beneficial consequence of working this mine would be, the supplying of the market at Patna with lead ore: for at present considerable quantities are carried thither, and sold by the name of *surma* (antimony). This ore is brought from countries to the westward of any of the Company's possessions, and is used by the country people chiefly for colouring their eyelids. We have had it very accurately assayed, and can pronounce with the utmost degree of certainty, that it is a true lead ore, not containing the smallest particle of antimony.\*

\* I might as well state here, on the strength of repeated analysis, that no small portion of what is sold at this day in the bazars, under the name of *surma*, is a sulphuret of lead without a particle of antimony. To those who physic their own horses, this hint may not be valueless.—S. G. T. H.

This undertaking would certainly prove very advantageous to the province of Ramghur, by procuring employment for a tribe of people found there and in the neighbouring provinces called *Coles*, who at present live in the jungles almost in the state of nature: yet although totally unacquainted with the conveniencies and comforts of a settled and civilized state of life, they are easily induced to quit their retreats, and are then found to become tractable and good labourers.

But we find our letter has extended to a length we little thought of: we shall therefore, Gentlemen, intrude no further upon your time, dedicated to affairs of so much greater moment, than to propose to you the terms which we think would enable us to carry our plan into execution.

After having obtained the best information in our power, we are of opinion that the pergunna called *Jerriah*, lying between the rivers *Dummooda* and *Barracar* in the province of *Pachete*, is the fittest situation for the iron work. The river *Dummooda* is navigable as high as that place; it abounds with iron ores, and has the singular advantage of being contiguous to the coal mines of which *Messrs. Sumner and Heatly* have a grant.

We propose then:—

I. That a sufficient quantity of land in the pergunna of *Jerriah* in *Pachete*, (or in any other province if appearing more advantageously situated for that purpose,) be assigned to us, for erecting the iron furnace and warehouses, and for the habitations of the workmen and labourers, to be held by the same tenure, by which *Messrs. Touchet and Prinsep* hold their lands.

That a like quantity of ground be granted to us for similar purposes, and on the same condition (if at present paying rent to the Company) at the lead-mine, but if *Jaghire*, that we be permitted to buy from the *Jaghiredars* such lands as may be requisite for the settlement of our people, and particularly *Dungherra valley*, without which it would be impossible to carry on the work, as the *Jaghiredars* we well know would levy such heavy contributions on our workmen, were they in their power, as would prevent them from working under higher wages than we could afford to give:—

II. That we be granted the exclusive privilege of working iron and steel in the European manner within any part of the Honorable Company's possessions which lie on the west side of the meridian of *Burdwan*, and of selling the produce of such manufacture, free from duty, in any place under the presidency of *Fort William*, for the term of nineteen years. That we be granted likewise the exclusive right of working the mines of whatever ores or minerals are not at present wrought by the country people within the aforesaid limits for the same number of years. By this article, however, we have no idea of prejudicing the rights of *Messrs. Sumner and Heatly*, who, you know, Gentlemen, have the exclusive privilege of

working the mines of coal, or of any mineral or metal, iron excepted, within certain districts of Beerbhoom and Paehete:—

III. That we enjoy the immediate protection of your Hon'ble Board, and be in no manner subject to the direction or control of the Burdwan Council, or of any of the Company's servants resident in the provinces within the above-mentioned limits, because should the Hon'ble Company ever be pleased to allow their officers of revenue the benefit of trade—it is obvious how much our works would interfere with their interest; and in case of disputes happening between the Zemindars or Farmers, and our Agents, they would sit as judges partly in their own cause. But that should any disputes arise, they may be determined by arbitration, or if becoming of a serious nature, by Commissioners sent from the Presidency—we obliging ourselves to abide by the decision of your Hon'ble Board on their report, and if found in the wrong, to pay the expense of such inquiry:—

IV. That we be permitted to employ Europeans in our works; we giving security, if required, for the good behaviour of those employed in the execution of that part of our plan which is of a private nature, but that such as may be required on account of the Hon'ble Company's work be on the same footing as the artificers of their contractors, who enjoy the greatest privileges:—

V. That we be allowed to take into partnership any person or persons whom we may at any time judge necessary to assist us in conducting our designs:—

VI. That on our part, we engage to erect furnaces and all other necessary works, and to keep workmen in constant readiness at our own expense, and that on application being made to us for any number of shot and shells, we oblige ourselves to begin the casting of them immediately, and to employ our furnaces for that purpose only, until such number be completed; and to deliver them at Fort William at four-fifths the price which the Hon'ble Company's shot and shells now stand them when landed at the same place:—

VII. That after the expiration of two years from the time of opening the lead mine, we allow the Company one-twentieth part of the profits which may accrue to us by the working of it, to be estimated by the profits of the two first years:—

VIII. That as the exemption from duty of our bar iron may be prejudicial to the interest of the persons who farm the *Loha mahals* in Beerbhoom, we engage to take their farms on the terms and conditions by which they are at present held.

We have now, Gentlemen, done ourselves the honour to lay our design before you: happy shall we be if it meet with your approbation, as we then

hope, and indeed make not the least doubt, that you will give us every encouragement and assistance, which may enable us to carry it into execution.

We have the honor to be, &c. &c.

T. MOTTE,

JOHN FARQUHAR.

*Calcutta, the 4th Nov. 1777.*

The proposal was the same day sent to Mr. Alexander Higginson and the Provincial Council of Burdwan, with instructions to report on the facts stated; whether the grant solicited would prove of detriment to the state or to private interests; to detail the statistics of the pergunna Jerriah, and to give such other information as may bear on the subject of the proposal.

Two months having elapsed without any answer being returned by the Burdwan Authorities, their memory was refreshed by a *takeed* at the suggestion of Mr. Farquhar, who from this time appears alone in the transactions connected with this speculation. I annex the reply complete:—

---

*The Burdwan Council to Government.*

HON'BLE SIR AND SIRs,—We have received your commands of the 6th instant, requiring an immediate reply to your letter of the 6th January last, respecting the proposals made by Messrs. Motte and Farquhar.

As the information you were pleased to require appeared to us of such a nature that the event of the proposals depended much upon our answer to the several points which we were directed to investigate, and as the distance of the pergunna Jerriah rendered it impracticable for us to ascertain the necessary facts without a local inquiry, we therefore stated them to Mr. Hewett at Jellda, who in consequence sent an Ameen named Seebnarain into the pergunna Jerriah, and who, you will perceive from the enclosed translation of his letter to Mr. Hewett, could not obtain any account of the amount of the Jaghire lands in that pergunna, though from the said letter it is fully evident, that the Zemindar and inhabitants appear to be pleased with the prospect of having an iron manufactory established in the country. The annual revenue to Government of the pergunna Jerriah is Rs. 2661. We have directed Mr. Hewett to use his endeavour to obtain further information, which should we receive, shall be immediately transmitted to you.

The death of the late Rajah of Beerbhoom we conceive has been the principal cause of our not having received the information required from that district. We however expect it daily, and will immediately transmit the particulars.

From the materials and information we have hitherto been able to obtain, we do not deem ourselves competent to give a definitive opinion, but as we conceive, allowing in general that the introduction of a new manufactory into any district must be beneficial to the public as well as to individuals, that the greatest difficulty Messrs. Motte and Farquhar will have to struggle with, will arise from the Jaghiredars and other landholders in Jerriah. We would therefore recommend to those gentlemen to make themselves acquainted with the difficulties which we apprehend, and to endeavour to obviate them, before they commence their manufactory, by reconciling the landholders and other inhabitants of the several districts in which they propose to be engaged.

*Burdwan, the 13th March, 1778.*

---

*Report of Seebnarain to Mr. Hewett, referred to in the above.*

Five days before my arrival, Rajah Mohunt Sing, with all his family and servants of every denomination, had gone into the jungles; not one of them attended me. I sent the perwanna you gave me for the Rajah by the hand of one of his people to him; upon reading the perwanna, he said that he was willing to furnish the articles of merchandize, (to wit iron,) but that he could not produce the Jaghiredars: that he would give his assistance in every thing which was required of him. This message he sent by one of his own people. If the Jaghiredars abscond, how is it possible for me to send you the accounts you require? You will be informed of every thing by the Moonshee, that not a cowree of money has been received upon account of the three Turoffs up to the month of Maug. The people are, through rascality, wandering up and down the country. Munsah Kell, &c. who went to Burdwan, have been arrived here three days. The Zemindars and all the people are pleased with the proposals for manufacturing the iron.

---

A more interesting report was sent in by Mr. Ramus, the Collector of Ramghur. This gentleman, at his entrance into the service, had been placed as assistant to Mr. Heatly in these districts. He was well known to his contemporaries as a devoted sportsman.

---

*The Collector of Ramghur to Government.*

HON'BLE SIR AND SIRS,—I have been honoured with your letter of the 6th instant, enclosing a copy of the proposals from Messrs. Motte and Farquhar, for casting the Hon'ble Company's shot and shells in Bengal, and

for working a lead mine lately discovered in Ramghur. In compliance with your orders, I do myself the honour of giving you every information in my power on the subject of both.

In the province of Ramghur, and in several contiguous pergunnas, an iron ore has been discovered these many years past, and worked both by the natives and by families who have long settled here merely to carry on the employ. They have ever met with great encouragement, as it has been productive of two very good consequences:—an inducement to the Calcutta merchants to negotiate in these parts; and a duty on its transportation, in which article the greatest part of the *Sayer* is comprehended, which enables the Rajah to make some addition to the Hon'ble Company's revenue: besides a consideration he annually receives from the heads of the trade for his permission and protection.

The iron is esteemed a very inferior sort, nor has the undertaking ever been carried on anywise extensively, owing to the great scarcity of labourers, (the country in general being much in want of ryots,) and their simple and tedious method of working it.

There is not a doubt from the quality of the ore, that the plan proposed may be prosecuted with the greatest ease; but not I imagine without being in some measure prejudicial to the country: as so capital an undertaking would require more workmen than these provinces could with convenience spare. Ramghur in particular severely feels that want, for there are many villages in it, and I may say pergunnas, almost wholly depopulated. The tribe of people called *Coles* are the immediate natives of Nagpore, who seldom leave that country but in small numbers, which even then proves hurtful to the neighbouring countries, unless shortly restored.

As the Company have never profited by such discovery any further than by a trifling increase of revenue, nor on the present mode does it promise any greater; should the proposal of Messrs. Motte and Farquhar appear to the Hon'ble Board advantageous, the only public detriment will be their great call for labourers, and the remission which the Rajah would apply for, to be made from his settlement, of as much as the duty and allowance annually amounts to.

With regard to private property, it would no farther be a prejudice than by obliging those to discontinue the business, who have for many years past been concerned in it, and who have made the necessary advances for a continuation; not that any of the labourers have purchased the spots, or entered into any agreement with the Rajah for his permission for any length.

The lead-mine having been so lately made known and worked to so trifling a degree, it is not in my power to give you any very particular in-

formation concerning it. The vein runs but a short way, but the appearance of the adjoining spots gives every reason to imagine it does not terminate in that one alone. The situation is southerly of Chattra, about 8 coss in the pergunna of Colrampore : the mine is at a place called Seedipore, the Jaghire of one of the Rajah's family, who concludes the mine not to be lead but *Surma* ; on which account he has never taken any steps towards working it.

I should have visited the place immediately I was honoured with your letter to have more fully informed myself, did not the troubles which prevail in many places here render my presence at Chattra absolutely necessary.

*Ramghur, 19th January, 1778.*

---

On the 17th March, the Government wrote to the Burdwan Council to put Mr. Farquhar in possession of the iron mines of Pachete, and to grant him such formal authorities as may be requisite : he satisfying the Zemindars or Jaghiredars for such rights as they may possess. On Mr. Farquhar's receiving a notice to the same effect, he addressed Government in reply, begging that *Beerbhoom* might be inserted instead of *Pachete*, in the instructions to the Burdwan authorities, as the ores of Ramghur and Beerbhoom are by much the fittest for cast works : while those of Pachete on the contrary produce a brittle short iron, which, though good enough for shot and shells, is by no means proper for the fabrication of cannon. He also states his reason for specifying Jerriah, to have been its central situation between Beerbhoom and Ramghur, and concludes with *begging permission to observe that*—

“ Were he allowed to hold the iron farms at the rents which they at present yield to the Honourable Company, every source of dispute with the country people would be obviated, and the peons requisite for the collection of the duties would afford sufficient protection to the works against the hill people without a guard of Sepoys, which I am informed will otherwise be absolutely necessary.”

The Government made the requisite alteration of name, but took no notice of the concluding hint. Farquhar, however, was not the person to yield his point so easily ; and without stirring from Calcutta, he not only repeated the application, but rather considerably increased its extent :—

*Mr. Farquhar to the Government.*

HON'BLE SIR AND GENTLEMEN,—It is with the greatest reluctance I bring myself to trouble you with a fresh application, but the many inconveniences I foresee I should have to labour under in executing your orders of the 20th February, if possessing no influence amongst the miners, oblige me once more to request that you will be pleased to grant me the farm of the duties on the Beerbhoom iron. And as this has no connection with the farms of the land, and yields to Government only 766 Rupees a-year, I flatter myself that you will not deem my request unreasonable.

I beg, Gentlemen, that you will likewise please to order that I be furnished with a letter of credit on the Burdwan Council, to the amount of five or six thousand Rupees for carrying on the works.

*Calcutta, 28th April, 1778.*

The Council ordered the farm of the iron mahals to be made over to Mr. Farquhar, but considered the advance unnecessary, as their orders of the 20th February, related to the experimental casting of four guns, which they now revoked.

Farquhar went down into Beerbhoom, and soon found his shrewdness sufficiently tasked by the natives, with regard to the settlements he was expected to make with the Zemindars.

---

*Mr. Farquhar to Mr. Marriott and the Council of Burdwan.*

GENTLEMEN,—I beg leave to trouble you for a few minutes on the subject of my farm of the iron mahals of Beerbhoom.

On my arrival here, I found that the rents had been raised the year before from 766 Rupees to 3,262 Rupees; at the same time it appeared by the papers of the Aurungs, that the whole collections did not amount nearly to that sum. I found likewise that the same person held the farm of the iron mahal and of the Noony pergunnah, and that at the very time when this increase was made on the mahals, he got an abatement of 4,471 Rupees on the pergunnah, by which he was in fact a gainer of 1,975 Rupees a-year.

The reason of this voluntary increase on the mahals was not difficult to discover. By this means the farmer imagined he had secured to himself the constant possession of them, as the people at the Aurungs were sensible that the sum collected was much less than this nominal jumma.

The Malgoozaree of Belputtah is estimated at 131 Rupees, on the supposition of there being sixteen *saals*, (furnaces,) but in reality there are



only eleven. Dehra Mourissa, Azimnagar, and Ahmednuggur are valued at 169 Rupees, where there has not been a single *saal*, nor scarcely an inhabitant since the famine. I would, Gentlemen, send proofs to you of what I advance, were not one of your members, (Mr. Pye,) perfectly acquainted with the facts.

I have likewise to observe, that the Governor and Council were pleased to direct that the farm should be let to me by your Board without mentioning a word of the Zemindar, as will appear by the enclosed letter. The Rajah's Dewan, however, says, that they are still included in his *doleputtah*, and of consequence that I must hold them in *cutkina* of him. I hope therefore, Gentlemen, that you will be pleased to order them to be struck out of the *doleputtah*, and to direct that the Honourable Company's Dewan receive the rents from me at the former jumma.

Beerbhoom, 15th October, 1778.

---

The Burdwan Council examined into these statements, and finding them true, addressed the supreme authority to the effect, that believing their intention to have been essential assistance to Mr. Farquhar, in establishing and prosecuting the business of an iron manufactory at Beerbhoom, they wished to be authorized:—*first*, to let the iron mahals to Mr. Farquhar on a fixed annual jumma of 766 Rupees; *second*, to receive the jumma from Mr. Farquhar, and to strike off its amount from the general jumma to be paid by the Zemindars; and *third*, to release Mr. Farquhar from all responsibility to the Zemindar of Beerbhoom. All this confirms the view that the property was vested in Government, who were free to improve their revenue derivable from it, the leases not being *mocurruree*, by farming it to the highest bidder, or to one at least who promised to increase its value.

It was agreed by Government to fix Farquhar's jumma at the original sum, but they did not fail to direct, that the land revenue of the Noony pergunnah should be raised to its proper assessment.

Relieved from these annoyances, Farquhar seems to have set to work with some ardour, but in a few months, we find him again importuning the Government for pecuniary assistance:—

---

*Mr. Farquhar to the Government.*

HONORABLE SIR AND GENTLEMEN,—Although you were pleased to countermand the directions you had given me last year, to make a trial

of the country ore for casting iron cannon, I have notwithstanding applied my whole attention to that object ever since. I had resolved not to trouble your Honorable Board for any pecuniary assistance, till I should be able to produce a gun as a specimen of my work. But the expense of cutting down jungle, of erecting a dwelling bungalow, and several necessary buildings for artificers, of preparing materials for forming a dam and of cutting part of a canal for supplying the bellows-wheel with water, has amounted to such a sum, that I find myself unable to go on with the work unless assisted by Government. And I trust, Gentlemen, that you will not suffer an undertaking to fail which was formerly approved by the Honorable Company, and was twice attempted to be carried into execution entirely at their expense.

I have estimated that it will require only fifteen thousand Rupees to finish the canal sluices, &c. and to erect one furnace capable of casting a 12-Pounder.

Should you be pleased to grant this sum, I make no doubt of your approving the following proposal. There are at present fifty matchlock-men maintained at the Company's expence, chiefly for the protection of the iron trade. As there is no check on their Sirdar, their number is never complete, nor is their appearance such as to keep the hill people in awe. Should you think fit, Gentlemen, to put them under my orders, to raise their pay from 3 to 4 Rupees, and to allow them 50 stand of arms, I would engage to clothe them uniformly, and to teach them to fire at a mark. They would then afford sufficient protection not only to the foundry, but to the adjacent country, which, in case of Capt. Browne's corps being recalled, will be much exposed to the incursions of the *Choars*.

*Calcutta, 20th June, 1779.*

J. FARQUHAR.

---

Government simply requested to be informed, in answer to this letter, the specific engagements into which Farquhar was willing to enter as a return for the assistance solicited. These, Farquhar lost no time in supplying:—

---

*Mr. Farquhar to the Government.*

HON'BLE SIR AND GENTLEMEN,—As success in casting guns is not absolutely certain, it is not in my power to enter into any agreement respecting them. But should I fail in bringing them to the requisite degree of per-

fection, I conceive it will still be advantageous to have a foundry always in readiness for casting shot and shells. Mr. Osborne lately applied to me for 100 7-inch shells, which he was much in want of, and which it was not thought proper to spare from the stores. And some of our officers were not long ago reduced to the expedient of casting shells of a sort of bell metal for the reduction of several mud forts in the Doab. Besides, Gentlemen, I presume it will appear to you an object of some degree of importance to cast shot for the French guns that are already in our possession, or may be taken in the course of the war, otherwise they must be absolutely useless.

I propose then after sufficient time for finishing the works being allowed :—

*First.*—To deliver at the New Fort such shot and shells, as may have been required, at 15 per cwt. under what they at present stand the Hon'ble Company when landed at the same place, to the amount of the sum which your Hon'ble Board may be pleased to indulge me with.

*Second.*—To enter into an engagement for any number of years either now or after having made good the above sum to furnish whatever number of shot and shells may be demanded on the same terms, provided they be for the use of the Hon'ble Company's garrisons or armies; but that I may be allowed to supply country ships, or their captains or owners producing a licence signed by the Military Store Keeper, or any other officer authorized by Government.

*Third.*—To give security for faithfully fulfilling these articles.

*Calcutta, 28th June, 1779.*

J. FARQUHAR.

This letter was followed up by the present of a 6lb. shot as a specimen of his casting. It seems not to have been smooth, which he accounts for by the small size of the furnace which allowed charcoal and dross to enter the mould. He states also, that the furnace proposed to be erected will contain 15 cwt. of metal at a time.

On the receipt of this last shot, Government surrendered at discretion, and the advance of 15,000 Rupees was sanctioned, as well as the transference of the matchlock guard.

Farquhar now commenced in earnest. In the report on the proposed construction of the Rajmahl Canal,\* furnished to Government, [July,

\* If it were permitted to turn from the history of that which has been, to that which has *not* been—a parenthetical sigh might here be offered up to the memory of this undertaking; so ably sketched, and completed in all its details—on paper. “Heu! quanto minus est cum reliquis versari quam tui meminisse!” May we hope that circumstances will draw attention again to it!

1832.] by Colonel Forbes, the following allusions to his labours occur :—

Par. 115. That good building stone may be obtained in the vicinity of the More, we are aware from the fact, that in a locality adjoining it, the late Mr. Farquhar constructed a dam, (stated to have been of an excellent quality of this material,) for the purpose of turning a stream of water over the wheel of a mill proposed to be employed by him in rolling out iron prepared on the spot from the ore. This dam was considered by the late Mr. Cheap, of Surool, to present the best specimen of masonry at the time (forty years ago,) to be met with in India.

Par. 117. Broken up for its materials, and consequently neglected, it is believed that at present no part of the dam alluded to, remains. Those who knew Mr. Farquhar, will however acknowledge, that previous to embarking in such a speculation, no man was more likely to have been cautious in his enquiries, and few better able to conduct them.

Par. 118. Certain it is that had the time and talents devoted by Mr. Farquhar to the making of gunpowder been continued to his iron works, the art of manufacturing iron would ere now have been far enough advanced, to have importantly facilitated the construction of this Canal, and many other works of public utility.

Farquhar was not, however, permitted to proceed in peace. The unexpected manœuvre of renting the *loha mahal* direct from Government, had completely disconcerted the plans of annoyance already prepared by the landholders. Continual efforts were made to surprise the authorities into some orders that might afford ground for litigation on the right to the *loha mahal*. In the meantime new aurungs were established by the Zemindar, who used the uncontrolled power possessed by landholders over the peasantry of their estates, to ruin Farquhar in every way. His people were molested, fuel obstructed, miners bribed away, and perwannas for private furnaces issued.

On the 10th May 1784, a paper of proposals was presented to the Committee of Revenue, to farm Beerbhoom from Government. It contained the following paragraph :—

“ That the farmer be allowed to examine the *hustabood* of the *loha mahal* which is included in the jumma, and under-farm it to such persons as the farmer shall like.”

The proposals were rejected. In August, the Zemindar Zemaun Khan presented a Wazeeb-ul-urz, in which he treats the *loha mahal* as his property as a matter of course.

I request permission to encourage and improve the *iron mahal* in my zemindary, the produce of which, provided I am allowed to attend to the improvement of it without interruption or check, will in a great measure make up for the want of assets in the malgoozary mahals.

*Committee's Order.*—The above *iron mahal* was granted to Mr. Farquhar by the Honorable the Governor General in Council, and must remain in his possession according to the terms of the grant, as he has hitherto held it.

In September, Farquhar represented the state of affairs to the Board of Revenue, and the attempts the Zemindar made to oust him. He pointed out clearly, that he was only responsible to Government for the *loha mahal*; but that no official alteration had been made in the Rajah's *sunnud* as directed in October 1778, and the annoyance had been renewed: he forwarded his *sunnuds*, such as they were. The Board referred the matter to Government, and received orders to act vigorously. A perwanna was despatched to Becrbhoom, forbidding the Zemindar to interfere with the *iron mahal*, ordering him to send in a list of the new furnaces built, and to produce his authority for so doing.

In 1786, new authorities having arisen, 'who knew not Joseph,' the attack was immediately renewed. The Zemindar, in arrears to Government, put down Farquhar as his debtor for the rent due on the *loha mahal* at 953 Rupees, and requested the Collector to levy accordingly. Farquhar, as might be expected, calmly denied any connection whatever with the Zemindar. The Collector was puzzled; there were records, it is true, in his office, but to disturb their venerable dust! a reference for orders was made to the Board. Farquhar's *sunnuds* were at that moment in the records of the Board, never having been returned. A call was made on him to produce them. He preserved a solemn silence. The call was repeated; he was deaf. After four letters, he wrote back to request the return of certain papers deposited with them, which being done he forwarded them back with a new *lifafah* as the papers required, accompanied by a dry apologetic epistle. Here concluded this chapter of annoyances.

On his appointment to the gunpowder manufactory at Pulta about 1789, he relinquished the iron speculation, to devote the energies of his mind to the new pursuit by which, to quote Col. Forbes again, "he afterwards amassed so enormous a fortune." He however preserved

the farm of the *loha mahal* to so late a period as 1795. It must then have reverted to the Zemindar. This personage disposed of parts of his estate at this time, and the purchasers commenced to levy the proprietary dues on the iron mines within their lots.

In 1799, the Rajah's affairs having become inextricably involved, the whole zemindary was put up to sale, and the lot containing the *loha mahal* was knocked down to Bustomchurn Hazra. The new owner immediately examined into all the aurungs of the zemindary, and disallowing the claim made by the private purchasers above alluded to, sued them for recovery of possession and restitution of mesne profits. The zillah judge decided in his favor. The decree was affirmed by the Provincial Court at Moorshedabad, who further added the singular clause, "that the property of all aurungs, mines, smelting houses, and other iron works lying within that district was vested in Bustomchurn Hazra." The decree was confirmed on a further appeal to the Sudder Dewanny Adalut, who however struck off the clause alluded to above, as irrelevant to the precise question, and not based on sufficient investigation. And so it certainly was. Every one had been at liberty to dig out ore from the mines, provided he paid the duty: nor had there been objections to his building his own smelting houses, &c. with the same proviso. The Zemindar certainly exercised a right to prevent new aurungs if he chose, as the supervision of them required a new establishment of officers. But the property of the works was undoubtedly in the private individuals, who built them in the aurung.

The quarrel was revived between the parties, and the Sudder Dewanny found it necessary to define the exact privileges which the property of the *loha mahal* now made perpetual, conveyed to its holder.

The owner of the *loha mahal* had a right to all the ore of the zemindary: the sums levied on the iron manufactured at the aurungs are viewed as the consideration or price taken by him for the ore appropriated by the manufacturers. No ores were to be manufactured without paying him the established dues. He was entitled to possession of the aurungs to secure the receipt of these dues. He was entitled to cause new mines of iron ore to be opened anywhere, on condition of making to the landholder in whose estate it lay, full and liberal compensation for the value of any land which may be rendered unfit for cultivation by opening the mine.

He shall not be entitled to establish new aurungs without previously obtaining the consent of the landholder for the land. He is also prevented from attempting to

restrain the manufacture of iron, and from attempting to exact from those concerned in it, any dues or payments which have not been customarily rendered.

The landholders on the other hand could not prevent any individual from taking ore from the *established* mines, and carrying it to any of the aurungs of the owner of the mahal, nor could they exact any fines or consideration for the ores so taken.

The decree of which the above is the substance, was passed in July 1811, by Messrs. Harington and Stuart, and completely defines the rights of the *loha mahal*: It is necessary to state, that the Collector in disposing of the *loha mahal* in 1799, did not specify to Government whether he had put up the entire *mahal*, but entered it as part of the *jaedad* of a particular district, Dehoche. The Court therefore referred the matter to the Board, (previous to their first decree,) enquiring whether they were willing to agitate any claim on behalf of Government with regard to the property of ore in the whole district. The intention of the reference was, that the Board might take some measure to subdivide the mahal, conveying to each lot the property of iron within its limits. No answer was ever returned by the Board, and the Court consequently limited the powers of the holder so specifically as is done above, to prevent the capricious or selfish crushing of all industry. The tenure exists on these conditions at the present day.—[*Sudder Dewanny Reports, Vol. I. 337 et seq.*]

N. B.—During Farquhar's labours, I find from an old newspaper, called *Hickey's Gazette*, published in Calcutta, that the market price of Beerbhoom hook iron was 5 Rupees per maund, Balasore hook iron at 6-8, and English at 10 and 11.

*Journal of a Tour through parts of the Panjab and Affghanistan, in the year 1837. By Agha Abbas of Shiraz, arranged and translated by Major. R LEECH, by whom the tour was planned and instructions furnished. From the Secretariat of the Government of India.*

INTRODUCTION.

In the summer of 1837, leaving my late chief (then) Captain Alexander Burnes at Dera Ghazee Khan, and accompanied by my fellow-traveller Dr. Lord, I paid a visit to Multan, for the purpose of collecting information of a commercial nature.

There Agha Abbas was introduced to me by my servants, as a man Meeting with Agha Abbas. professing some knowledge of Farriery. He undertook the cure of one of my horses, and on our departure from Multan, followed me with it to Karabagh, where having no further occasion for his services, I wished to discharge him. He however made such offers of unrequitable services, talked in Persian phrase of "spilling his blood at my stirrup," and detailed such a list of varied accomplishments he was the possessor of, (reading and writing not included,) that I was induced to keep him on. To one of these accomplishments he knew I could bear witness, besides the cure of the horse; this was his causing loud explosions in water, by igniting a white powder on its surface, with a drop of liquid from a vial, much to the astonishment of the idlers of Multan.

At different subsequent periods, I gained from him the following abstract of his previous history:—

He was originally an inhabitant of Shiraz, the place of his birth, His previous History. and was employed by Prince Hasan Alee Meerza, governor of Kirman. On the seizure of that prince by his elder brother Abbas Meerza, Agha Abbas fled, and travelled viá Bamm, Narmasher, Seistan, Candahar and Cabool to Peshawur, where he met an old acquaintance, Naib Abdu Samad, who was raising an infantry regiment for Sirdar Sultan Mahommad Khan, and took service under him.

He afterwards accompanied the naib on his being obliged precipitately to leave Peshawur, on account of one of Sultan Mahommad Khan's brothers conceiving an enmity against him, to Cabool, where



he became adjutant of the regiment Abdu Samad raised for Dost Mahommad Khan; and as such, was present in the action fought at Candahar on the 2nd July 1834, with Shah Shuja-ul-Mulk.

On his return to Cabool, he quarrelled with his patron and commandant on the subject of the uniform of the regiment, which he refused to wear, threw up his appointment in disgust, and retired from the service.

Quitting Cabool, he proceeded viâ Peshawur to Attock, where a display of his "*patakahs*," or crackers, procured him for a time employment with Cashmeeree Singh, one of the sons of Maharajah Runjeet Singh, whom he accompanied to Lahore, from which place he requested leave to return home to Persia, the value of his services not being fully appreciated, and I therefore, according to his account, encountered him on his road to Persia viâ Scinde.

From Karabagh we proceeded viâ Rawal Pindee to Attock. At this latter place, I planned and proposed to Agha Abbas this tour, which he agreed to attempt. Furnishing him with minute instructions, a small advance of money, a Persian writer and a guide, I dismissed him; and again separated from Captain Burnes and proceeded up the river Indus to explore the fords.

On my return to Peshawur from this trip, Agha Abbas, to my astonishment, again presented himself, with a doleful story of his two companions having deserted him at Rawal Pindee.

Leaving the choice of fresh men to his own discretion, and making him a further advance of money, I again dismissed him; and did not see or hear of him, until on the completion of his journey, he joined me at Candahar in the early part of 1838, with the following account of

his labours and adventures, which has been translated, partly from his original account written by his companion from his own dictation; and partly from his answers to questions put by myself, on subjects he had at first either entirely omitted, or only slightly touched on.

N. B.—It must be borne in mind, that as only the four cardinal points of the compass are used as bearing: a "North" bearing has a range from "North-West" to "North-East," and in like manner the other three points.

## FORMAL.

On getting my dismissal from Major Leech, an advance of twenty-five Preparation. Nanakshye rupees, and being furnished by Mr. Lord's native doctor with a number of small packages labelled in English, containing the commonest medicines, to enable me to act at times as a *hakeem*, I proceeded to organize my party. This consisted of myself, a Party. Persian writer, two guides, and a servant; all habited and equipped as fakeers.

As some compensation for the disappointment felt by my employer at finding me at Peshawur, instead of hearing of me well on my journey, I subjoin the following information, gained during my detention at that city:—

Number of jarebs in the province of Peshawur according to the Land estimate of division of Sultan Mahmood of Ghuznee 15,76,000 Peshawur. jarebs, at the rate of 3,94,000 jarebs for each of the following four divisions; viz.

1st Division.—Yusafzyes, Bajour, Mandour, Chagharzyes, Byán.

2nd Division.—Teera, Bangash-i-Bala, Bangash-i-Paen, Bannoo Daman, Khost, Murwat.

3rd Division.—Khattak-i-Bala, Khattak-i-Paen, Wazeeree, Too-rees, Jajees.

4th Division.—Khaleels, Momands, Daoodzyes, Khalisa-i-Shareefa, Duabah, Hashnagar, Baghayat-i-Bagram.

The revenue of Peshawur under the Sadozye kings was 9,51,000 Revenue. rupees, 2,40,000 of which was distributed in church lands to the Mullahs; and the remainder, 7,11,000 reached the royal treasury.

Peshawur is said to contain 7,761 houses, of this number 5,566 are Number of Houses. private dwellings, and 2,195 shops.

On the 7th of Jamadee-ussanee left Peshawur, and passing the Barah rivulet, reached Pabbee, a distance of 6 kos.

8th Jamadee-ussanee.—Travelled eleven kos to Akorah, passing at Akorah. five kos Nosherah, where there is a garrison of one hundred Sikhs, as well as at a Baolee, (well) on the road. At Nosherah I witnessed an act of Sikh tyranny: three of the country people, Mahommadans, had been pressed to labour the day before, and at night had been shot on a pretended suspicion of being thieves. Their bodies were hung

on a gallows, and a fire had evidently been lit underneath, from the dreadful manner in which they were scorched.

9th Jamadee-ussanee.—Proceeded to Attock five kos through the Gidar galee (jackall defile) and across the river Indus; saw the body of a Khatak, suspended over the gate of the town of Khyrabad, which

Another act of ty-  
ranny.

is opposite to that of Attock, and on the right bank, in company with a dog, and scorched like the body at

Nosherah. He had been killed by a Sikh on some false pretence. I

Wreck on the Indus. also witnessed the wreck of two boats when crossing

the river: they contained a wedding party, who were conveying a bride to her husband; four men of the crew alone escaped.

I remained four days at Attock.

13th Jamadee-ussanee.—Reached Haidaro (Hazro,) a distance of

Haidaro.

eight kos, passing at three kos the village of Daman, and at three and a half kos, that of Furlu-

liyan. There is a noted robber in these parts, by name Sher Zaman,

Famous Robber.

who lives in the Gungar hills. He is in rebellion against the Sikhs, and one of their most deadly

enemies. He seldom plunders a caffila unless he finds a Sikh in it, a single soul of which caste he never spares.

15th Jamadee-ussanee.—Proceeded four kos to Burhan, crossing the Haro river.

16th Jamadee-ussanee.—Travelled three kos to Phattargad, a de-

Phattargad.

pendency of Hasan Abdal. There are one hundred houses on the mound, and fifty below. There are two

Hindoo shops. The inhabitants have large herds and flocks, and are

of the tribe of Gujar. Their supply of water is half kos distant, where there is a water mill, and forty or fifty trees. The head of the village, Malik Raheemdad. In the evening I was prevented from sleeping in the mosque, and had to content myself with the roof of the mill.

Inhospitality.

I could only account for this inhospitality by supposing, that my wearing my mustachios untrimmed,

betrayed me as a Sheeah. To the west is the district of Futteh Jung.

17th Jamadee-ussanee.—Reached Pindi Nousheree, a distance of

Nousheree.

seven kos over a bad road, intercepted by ravines. There are 150 houses. The inhabitants are chiefly

weavers of coarse cotton and woollen cloths. Their cultivation de-

pend on the rains. The head of the place is Malik Ghulam Rasool, by tribe a Katar. The governor, a Sikh, by name Mán Singh, had that day forced the daughter of a Musselman goldsmith. The inhabitants rose and took to arms, killed one of Mán Singh's attendants, and severely beat the governor himself, forcing him to flee, and then took away their families to the hills, as did all the neighbouring villagers, coming down at night and watching their fields and houses, armed. The village was so deserted, that I did not think it safe to put up in the mosque, but spent the night with one of these armed parties in a house in the purlieus. I afterwards heard that the outrage here mentioned was brought to the knowledge of Runjeet Singh, but I know not whether the aggrieved obtained redress or not.

18th Jamadee-ussanee.—Made a stage of eight kos, over a road

much broken with ascents and descents, and ravines.

Tahlan.

Tahlan, a place consisting of seventy houses, and containing two Hindoos shops; fourteen Cashmeer dancing boys had also taken up their residence here. The name of the head man is Allanoor, by tribe a Jat. This place is dependent on Rawul Pindee. I spent the night with the Cashmeerees.

19th Jamadee-ussanee.—Proceeded seven kos over ascents and descents, and through ravines and jungle, in which I lost my road, and had to wait at a tank, until a herdsman coming to water his cattle,

Talan.

set me right to Talan, a village on a rising ground, containing two hundred houses, fifteen Hindoo shops, and four of shoemakers. The inhabitants are weavers of coarse cotton and woollen cloths, and pay a revenue of 1000 rupees. There are eight wells. The name of the head man is Nasarulla. Here I was detained two nights on account of the indisposition of the Persian writer.

21st Jamadee-ussanee.—Three kos to Chotra, which is a place con-

Chotra.

taining 300 houses of Musselmans, and forty of Hindoos, situated partly on an eminence, and partly

on the bank of the river Sawan. There are forty weavers, partly Cashmeerians and partly natives of Patwar. The

River Sawan.

revenue is 1,200 rupees. The river is very deep, and not used in cultivation, which is carried on by means of forty wells. There are two head men named Habo khan, by tribe a Budhar,

and Shamee Khan, by tribe an Awan. There are no shops; the Hindoos transact business in their houses. One of my party going to make a purchase, entered into a quarrel with a Sikh, and came home wounded.

22nd Jamadee-ussanee.—Travelled nine kos to Bher, a place containing seventy houses, but no shops. The road  
 Bher. uneven. The name of the head man Habeebulla, by tribe a Ratyal. Revenue 200 rupees.

23rd Jamadee-ussanee.—Proceeded three kos to Doulatana, a place containing two hundred houses of Musselmans and  
 Doulatana. eighty of Hindoos: seven shops and three weavers. Revenue 600 Rupees. The inhabitants are of the caste Alpyals, and the head men are Kareemdeen, Nizamodeen, and Walee Mahommed.

24th Jamadee-ussanee.—Travelled six kos over bad ravines to  
 Kamtareela. Kamtareela, containing two hundred houses, eight Hindoo shops and twenty weavers. The place however is much dilapidated. Its revenue is 1000 rupees. The cultivation depends on the rain. There are two dilapidated mosques in the suburbs. The head man is Hadayatulla, by tribe an Awan. At this place my fakeer's habiliments attracted charity.

25th Jamadee-ussanee.—Travelled five kos to Peer Janjoot, containing two houses of Mullahs, styled "Myan," three  
 Peer Janjoot. shops of Hindoos, and twenty houses of weavers, cotton cleaners, and gardeners. The "Myans" farm the place for a yearly nazarana of two hundred rupees. This is a neat, pleasantly situated place surrounded by trees, and having a fine tank stocked with fish. I stopped here another day, and my appearance attracted suspicion of my being an alchymist: many would-be smatterers in the art came to prove me, and fortunately, I found them more ignorant on the subject than myself; as I had not, when first asked, wisely denied all  
 Alchemy. acquaintance with it. One man more foolish than the rest, catching at some dark hint I purposely let drop to confuse them, followed me a whole stage, intreating me to impart something of my invaluable secret to him. This I faithfully promised to do on my return, which I pretended would be very speedy.

27th Jamadee-ussanee.—Proceeded six kos, passing for three kos  
 Dumbelee. over estony pass to Dumbelee, a village situated on an eminence, and containing five hundred houses,

and a new bazar of one hundred shops, laid out in two streets, at right angles to and intersecting each other, the residence of Rajah Fazldad Khan, who is by tribe a Bagyal. There are eight wells with Persian wheels, and the revenue is one thousand rupees.

28th Jamadee-ussanee.—Travelled five kos to Rotas, the head man of which place is Fazldad Khan, by caste a Bagyal. He formerly furnished a contingent of 500 horse; and enjoyed the whole of Rotas, now under the rule of Rajah Gulab Sing. He enjoys 7,000 rupees, 1300 from Dumbelee and 5,700 rupees from other districts, and has no power. He has now retired to Dumbelee, where he resides. Rotas contains one thousand houses, and one hundred shops; has twelve gates, three to the East, five to the West, two to the North and two to the South: four of which alone are open. The district of Rotas is divided into fourteen tappas, one of which, Taliyala, under Waleedad Khan, is in jagire to Shah Zadah Karak Singh; one Shah Jahenee, under Shah Ahmed to Mishur Jesah, keeper of the royal toshakhanah; and the remaining twelve are in jagire to Rajah Gulab Singh. The revenue of Rotas was formerly three lakhs of rupees, now it only amounts to one lakh.

The twelve tappas of Rajah Gulab Singh are as follows: 1st. Tappa Shakra, under Choudree Ghulam Husen, by caste a Gujar; 2nd. Tappa Salama, under Abdulla Khan Gujar; 3rd. Tappa Doulatalee, under Azeemulla Khan Bagyal; 4th. Tappa Sikandar, under Azeemulla and Imam Bakhsh Bagyal; 5th. Tappa Choutlee, under Walo Khan Malyar; 6th. Tappa Rajoo, under Choudree Suleman Gujar; 7th. Tappa Sangoee, under Mahdee Khan Bagyal; 8th. Tappa Tirhala, under Fazaldad Khan Bagyal; 9th. Tappa Shibalee, under Mado Khan Bagyal; 10th. Tappa Eesyala, under Khuda Bakhsh, and Khuda Yar Jat; 11th. Tappa Kunar, under Lal Beg and Meerza Khan Moghuls; 12th. Tappa Pidree, under Yoosaf Khan Bagyal.

29th Jamadee-ussanee.—Travelled six kos to Sangoee, passing half way a river, the remaining half over sand through cultivation. The place contains six hundred houses and seventeen shops of Hindoos. Here Mishur Jesah has built a fine upper-storied house for his own accommodation. Outside the village, to the North, is a fort with four towers, garrisoned by twelve of Rajah Gulab

Singh's sepoy. There are eight wells. The head men are Khuda Bukhsh and Khuda Yar, by tribe Bagyals. The revenue is two thousand rupees.

1st Rajab.—Proceeded seven kos over a plain, and through cultivation to Koohar, a place containing one thousand and five hundred houses and eighty shops. Within town to the South is a small mud fort that commands it, garrisoned by eight sepoy. There are twenty wells. The head man is Noor Alam Khan, a Kutubshye Awan. The revenue formerly was 2,500 rupees; it is now 8,000 rupees.

On arriving I put up in the mosque, where soon after Noor Alam Khan and his son came to prayers. Observing an excrescence on the temple of the latter, I offered my services to remove it. This was done in a few hours after the application of a liquid I had with me. For this piece of service, Noor Alam invited me to his house and entertained me; gave one of my men a white shalakee, and on my departure, packed up two days' provisions for me. I learnt that Noor Alam had once embroiled himself with the Sikhs, by killing one of the garrison for some act of tyranny committed.

3rd Rajab.—Travelled ten kos to Kotala, over a hilly road for four kos and through a defile. There is a tank on the hilly ground. The road is then sandy, and abounding in ravines. To the West is the town of Guzerat. There are eighty four villages dependent on Kotala. The revenue is 5,000 rupees. There are two thousand and five hundred houses. The old bazar contains two hundred shops; and the new one, which has been laid out in two lines intersecting each other at right angles, seventy shops. There are sixty-seven wells for cultivation. The head man is Abdulla Khan, by cast a Gujar.

4th Rajab.—Proceeded five kos to Rasoolnagar, called by the Sikhs Ramnagar, crossing the Chenab. The town is surrounded by a mud wall, and has six gates, and a garrison of fifty men, whose yearly pay is 300 rupees; but they are only paid for ten months. The government of the place is entrusted to Jawahar Singh, who receives on account of pay from the amount of the farm of the thanadaree and adalat 1,900 rupees; the whole amount being 2,500 ru-

pees; he is a native of Ramnagar. The other taxes of the place are collected by Rajah Gulab Singh. The town contains eight thousand houses chiefly of mud, and six hundred and fifty shops, seventeen mosques, and fifteen dhurmsalas and thakoor divalas. There were formerly eighty-four villages dependent on Rasoolnagar, that are now given away in separate jagires. There are eighty-four wells for cultivation, which are all distributed in jagires to Brahmins. The inhabitants are Musselmans. The revenue formerly was three lakhs of rupees. The

Former Chief. former chief of this place was Ghulam Kadar Khan, by tribe a Chattha. He has now taken up his abode

in Ramkee, and has employment in Runjeet Singh's gorchars, on a salary of 400 rupees. When chief, he could collect several thousand men, and has often opposed Runjeet Singh and his father in the field.

Here my funds ran short, and the Persian writer and cossid became clamorous for pay. Knowing that a man of my employer's, by

Diversion to Um- name Nursing, was at Umritsir on a tour, having  
ritsir. similar objects to my own; I set out for that city,

promising to return in nine days. On my arrival at Umritsir, my application to Nursing proved unsuccessful; but I fortunately encountered some Persian and Cabool acquaintances; one of them, by name Agha Rajab Alee Khan, lent me 280 rupees, and paid for 45 rupees worth of pedlery that I bought for my journey, and I set off on my return, accompanied by my creditor's uncle, who was to be repaid at Cabool. On my return to Rasoolnagar, having overstayed

Disappearance of my time by two days, I found that the Persian  
Meerza. writer, tired of waiting, had disappeared with my notes. I lost no time in following him by double marches; on arriving at Koohar, I found he had left the preceding night; here I was no longer able to follow him on foot. Alam Khan lent me a horse and a guide, for which I presented him with a looking glass. On arriving at Rotas, I found the Meerza in the mosque. After a deal of coaxing, I induced him to return with me to Koohar, where I paid all my companions their wages, and got them to accompany me further on my journey.

21st Rajab.—Started for Khurd Chotala, arriving in three kos at the river Jelam. The place contains two hundred houses  
Khurd Chotala. and eight wells for cultivation. The inhabitants



are Moghuls and Jats; the head man is Akir Khan Moghul. This stage was five kos. The revenue is 800 rupees including the district of Jalalpoor.

22nd Rajab.—Proceeded eight kos to Jalalpoor, which is situated on the side of a hill, below which runs the river.

Jalalpoor.

It contains two thousand houses and seventy shops, and has fifteen wells for cultivation. In the town is a small mud fort with four bastions, garrisoned by ten men of Rajah Gulab Singh. Revenue 16,000 rupees. The head man is Sher Khan, by caste a Janjooa.

23rd Rajab.—Travelled ten kos to Chaki Hameed, passing Sherpoor at three kos. The place contains two hundred houses

Chaki Hameed.

and two shops. There are fifteen wells for cultivation.

The revenue is 1,500 rupees, including the district of Pind Dadan Khan; the head man is Rajah Futteh Khan, by caste a Jalab. On arriving at the place, the Rajah was seated in a *takya*, and conversation ensued, in which he enquired my native town, and on learning it, invited me to his house, where he entertained me, and produced spirits in the course of the evening on account of my successfully prescribing for his son's and sister's excrescences; he detained me as his guest three days.

27th Rajab.—Travelled to Pind Dadan Khan, which consists of three divisions, distant from each other from two to

Pind Dadan Khan.

three hundred yards; one of which only is properly

called Pind Dadan Khan; it contains three thousand houses and three bazars of about three hundred shops. There are three gates to the town, but the surrounding wall is so dilapidated, that there are thoroughfares in all directions. Outside of the town to the west, is a mud fort with four bastions, in which there is stabling for thirty of Rajah Gulab Singh's horses, and a garrison of thirty sepoy's under one Takurdass. There is also a small iron gun outside the fort. There were thirty or forty heaps of salt, containing about 5,00,000 maunds, covered with a coating of mud to render them water proof. There is a large steel-yard here for weighing the salt, which is allowed to be sold no where else. The other division or suburb is called Kot-i-

Kot-i-Sultan.

Sultan, containing five hundred houses, and a bazar of fifty shops. There are two gates, one to the north,

and the other to the south, and the place is surrounded by gardens. The name of the other division or suburb is Kot-i-Sahib Khan, under a man of that name. It contains six hundred houses, and a bazar of forty shops, but no gates, and there are thoroughfares on all sides. There are fifty wells for cultivation, twenty of which alone are in repair. The price of grain, &c. I found as follows: wheat six seers the rupee, ghee two and a half seers, oil eight seers, rice sixteen seers; mash one maund, cotton four and a half seers, barley twenty seers. All the timber brought down by the river in the flood, is considered government property. The chiefs are Rajah Zabardast Khan, Sahib Khan and Disher Khan, by tribe Gogids. The place is bounded on the north by the salt range, on the south by the river Jelum. The revenue, besides the six tappas, amounts to 35,000 rupees. The six Tappas are as follow:—

1st. Tappa-i-Pind Dadan Khan, generally known as Tappa-i-Jalab, Six Tappas. under Ahmed Khan. Revenue 20,000 rupees.

2nd. Tappa Ahmadabad, under Zulfkar Khan. Revenue 60,000 rupees.

3rd. Tappa Myanee, under Mahammad Khan, by tribe a Jat. Revenue 25,000 rupees.

4th. Tappa Pahra, under Noor Khan Moghul now in exile. Revenue 80,000 rupees.

5th. Tappa Barah, under Rahmat Khan. Revenue 16,000 rupees.

6th. Tappa Dannee, under Mahommed Khan, by tribe a Babad. Revenue 100,000 rupees.

There are in all eight salt mines; four only are worked: the names of those that are shut are as follow: Sardee, Neelawan, Salt Mines. Durnala, Chotana. The latter is said to contain veins of copper and lead. The inhabitants of the neighbourhood subsist by cultivation. The reason of the closing of the four mines is on account of there not being a sufficient demand for the produce. The rate at the four mines that are at work is the same. Sepoys of Rajah Gulab Singh are stationed over the mines, to prevent the smuggling of salt, which, to any extent is punished by confiscation of property. In consequence of the heavy fines, the miners themselves live on bread without salt. The government employ fakeers as spies, to try by begging, to discover the miners,

who use salt in their bread. If the miners are found stealing a seer or two, they are obliged to extract twelve *goonees* of salt for one rupee, each *goonee* containing two and a half maunds. The government pay one rupee nominally for sixteen maunds, which quantity weighs actually twenty maunds.

The hire of carriage to Pind Dadan Khan is 1 rupee per twenty maunds from all the mines, except the Makraj one, Hire of Carriage. the hire from which is 1 rupee for sixteen maunds.

The camels on which the salt is carried are all the property of Rajah Gulab Singh. The merchants, who make wholesale purchases, get the salt at  $1\frac{1}{2}$  rupee the maund, others pay 2 rupees. Formerly the tax on the salt amounted to 4 lakhs of rupees. After the visit of Captain Wade, the farm rose to 8 and 9 lakhs, afterwards to 12 Salt Farm. lakhs, then to 14, at which I found it; as far as 25 lakhs are said to be realized. Rajah Gulab

Singh has farmed the mines from Maharajah Runjeet Singh. The labourers, who carry the salt out from the mines, are paid 1, 2 and 3 annas the day. Formerly one miner and two labourers got paid by the day one rupee;—the labourers being mostly males and females, adult and children, and the miner's own family. None but the experienced miners of the place can dig the salt. The labourers, when the salt is dug, bring it out by the aid of lamps in baskets, which they carry on their heads. Their clothes are completely blackened. The miners told me an anecdote, which was this: During Captain Wade's visit to the mines, when he was in one of the large

chambers, Rajah Gulab Singh, jealous of a close survey being made, ordered the miners to throw up salt from behind the visitor, so as to fall in showers from above about him, and then to get up a cry that the roof was falling in, so as to cause his speedy departure. This stratagem succeeded. The galleries are driven under ground to the length of several hundred yards. The

Mines at work. four mines that are at work are Khur Chotana, Korah, Kerah, Makraj. The inhabitants of the neighbourhood of these mines do not cultivate; but depend on their labour in the mines. The salt of these mines appears perfectly inexhaustible. Each miner digs from fifteen to twenty maunds a day.

There are one hundred houses in the vicinity of the Chotana mine, and no cultivation: the head man is Shamo Khan Janjooa.

There is no cultivation at the Korah mine, and the houses are on an eminence. There is no water nearer than half kos, and that is rain water. The head man is Faizbakhsh, by tribe a Jalab. To the North is the Dannee Darra. There are two hundred stone huts in the neighbourhood of the Kerah mine; but no cultivation. They have none but rain water.

There are two hundred stone huts in the neighbourhood of the Makraj mine, and no cultivation. There are two running streams, one fresh and one salt. The head man is Karamdeen, by cast a Gogir.

I went to most of the mines myself. They have all one entrance each, the galleries run through red earth, and the salt lies in veins which the miners follow, until exhausted, when they proceed in a fresh direction; some of the shafts are sunk so low, that they have come upon water; other galleries proceed so high, that light is let in from the top of the ground. Many accidents, some fatal, occur, by the falling in of the roofs of the chambers.

While I was in one of the mines, a labourer's arm was broken by the fall of a block of salt, and a general rush, headed of course by myself, was made for the open air. I saw one miner, who had lost his right arm by an accident, digging with his left.

The galleries are so dark, narrow, and winding, and so numerous, that it is impossible to traverse them without a light and guide.

The warmth of the mines is very oppressive, and the reflection of the labourers' lamps on the crystal roofs of the chamber has a very beautiful effect. The mines of Neelawan and Khur Chotata are the finest.

The miners separate the blocks by picking round the two sides and bottom, and then detach it from the top by heavy blows. The blocks generally weigh four maunds. The chips are collected by women and children. The miner's tool is a pick, of about thirteen inches long, having a sharp point at one end, and the other end about three inches square, which serves as a hammer. It is furnished with a wooden handle about a guz long.

Rájah Guláb Singh, besides the farm of the salt mines, farms the Rajah's Farm. following ferries and districts, for 10 lakhs of rupees. Ferries—Bawal, Hareea, Bed, Bhera, Khushab, Saeewal, Dhannee, Ahmadabad, Jalalpoor, Meeanee, Makhad.

The districts are—Jalab, Bhera, Chakar, Bher, Yar, Saeewal, Dhannee, Pathwar, Gandapoorwal, Dalwal.

The village of Dalwal is situated on an eminence; and is the Jagire of Mishar Beleeram. It contains six hundred houses and ten shops. It was formerly included in the district of Janjooa. The Mishar has built here a fine-upper storied house for his own accommodation. There are eight wells for cultivation. In the road is the village of Badshapoor, the former chief of which place was Sher Khan.

The village of Sardee is situated on an eminence, and contains one hundred houses, under a chief, Abdulla Khan, by Sardee. tribe an Awan. To the east is the fort of Dharee, built by Sardar Haree Singh, and used as a state prison. It is built on an eminence, and is very difficult of approach. Mahmood Khan Hazarah Wala died a prisoner in this fort, from State Prisoner. starvation: his sole food for twenty-four hours, being half pao flour, and the same quantity of salt. From Pind Dadan Khan to Sardee is about forty-five kos.

I passed one month in visiting these mines, and spent a good deal of money in trinkets, distributed to the head men of the Stay. different places. I also practised with success, in my profession of Hakeem; sometimes giving medicines, sometimes charms.

The village of Kahar is situated in the plain, and contains three hundred houses, and four shops; also four water Kahar. mills, a fine stream, numerous trees, and the shrine of Shekh Buzurg. I have not seen a prettier place in the whole of Patwar, than this. There is a tank at the shrine, in and round which are to be seen numerous ducks and peacocks. The head man is Fattah Khan, an Awan by tribe. The distance from Sardee to Kahar is four kos.

29th Shaban.—Proceeded six kos to Bherpoor, a place containing three hundred houses and no shops. The cultivation depends on the rain. The head men are Moghal and Samad, Bherpoor.

by tribe Awans. To the East is Kahar, to the West Thalla, to the North Pind Malik Amanat, and to the South the hills. Revenue 1,200 rupees.

1st Ramzan.—Travelled seven kos to Thalla, the jagire of Thanah Singh Malwee. The Thanedar is Danya Singh. The garrison is composed of forty Sepoys. It contains three thousand houses, one hundred and twenty shops, and thirty wells for cultivation: thirty-two villages are dependent on this place. The head men are Haiyat Khan and Mehr Khan, by tribe Awans. To the West is Thaman, to the North Awankaree, and to the South the hills. The revenue is 60,000 rupees.

2nd Ramzan.—Proceeded to Thaman, the jagire of Ram Singh of Bhakapoor, who is by tribe a Brahmin. There are one thousand houses, fifteen shops, and twenty wells for cultivation: two kos on the road is the village of Akowar. The head men are Mahammed Khan and Budha Khan. Three kos further on, is the village of Kufree. Thence three kos is the village of Sankowalee Thence two kos is Thaman. On arriving, I was taken violently ill. To the West is the river Sawan, to the North the districts of Gheb and Dhannee, and to the South the road to Baghan [Karabagh]. The revenue is 24,000 rupees.

3rd Ramzan.—Travelled six kos to Tarapa, on which eight other villages are dependent. There are four hundred houses, on an eminence, on the bank of the river Sawan. On the road are the villages of Koulee, Battan and Shah Mahammad Walee under Allaiyar Khan, by tribe a Sapkal. Revenue 14,000 rupees.

4th Ramzan.—Proceeded to Makhad, four kos, over a hilly road and through ravines, and two kos through a sandy defile, which is sometimes flooded, and thus impassable for a time. The road is infested by Khatak robbers, who come from the other side of the river. There are seven Mouzas, dependent on Makhad, the revenue of which is 10,000 rupees; and that of the village, custom-house, &c. the same sums. Of this Abdulla Khan receives eight hundred as pay. The houses are on an eminence overlooking the river Indus, and amount to three thousand. There are two hundred Hindoo's shops, and three gates to the village.

On arriving at Makhad, two men of Rajah Suchet Singh's came to demand two boats for crossing the troops,—in which, towards evening, I embarked with them. Gouhar Singh, of Pind Malik Amanat, with forty sepoy, kept guard on one of the gates of Makhud. The head man is Abdulla Khan, an Afghan, of the tribe of Saghuree, who can muster four thousand fighting men.

5th Ramzan.—Proceeded by water to Karabagh, which consists of a

fort and a suburb, situated at the foot of the salt range.

There are three thousand houses and three bazars, containing one hundred shops. On the hills are two towers, which command the town, under Allaiyar Khan. The revenue derived from the salt is appropriated by Rajah Suchet Singh. There are twelve

saltpetre manufactories, the amount of the revenue from which is 12,000 rupees; which is given in jagire to Malik Allaiyar Khan, by tribe a Satkal Awan. He could collect one thousand five hundred fighting men. They are friends with the men of Teeree and Sagharee, and enemies of the Khataks. To the East is Saeewal, to the West Eesakhel, to the North Shakar Darra, and to the South the river Indus. The revenue paid to the Sikhs is 5000 rupees, ten horses, and twenty camels. Rajah Suchet Sing's force had proceeded

to Katkee, a fort of Ahmad Khan, situated in a valley.

The Khan, on hearing of the advance of the Sikh force, fled, and sought refuge in Bannoo Daman. The Rajah, finding the place vacated, returned, and took possession of the fort of Eesakhel.

I intended proceeding hence by water to Dera Ismail Khan, and thence to Tak by land; the Meerza became aware of this intention, and not liking to accompany me, left at night, and proceeded,

I supposed, via Shakar Darra and Cohaut, to his home at Peshawar. I was much annoyed and distressed at his disappearance, until I was fortunate in procuring another

writer, an Afghan, in whose company I marched, with the Sikh force, towards Dera Ismail Khan. I remained three days at Karabagh, alias Baghan. During this time news reached the Rajah, that Alladad Khan, the son of Sarwar Khan, joined by the Wazeerees, had advanced on Tak; and that the Sikh garrison, leaving the fort, prepared for the

attack, which proved successful, and the Sikhs suffered a signal defeat. The town was taken and

Insurrection.

plundered, and finally evacuated, as the people of Tak would afford no assistance to Alladad Khan and his Wazeeree allies. On receiving the intelligence, Rajah Suchet Singh, instead of proceeding to Bannoo Daman after Ahmad Khan, turned off to Tak, having sent for the two guns he had left at Karabagh. On arriving within one march of Tak, the Rajah received confirmation of Alladad Khan having retired to the Wazeerees: he therefore fell back on Eesakhel.

9th Ramzan.—Reached Eesakhel, which is the name of a district; the village being called Zakokhel. It has a fort and seventy shops. The tribe could collect three thousand fighting men. The cultivation is carried on from the river. The chief is Ahmad Khan. To the east is the river Indus, to the west the Murwats, to the North Karabagh, and to the South Khusoor. They are friends with the Sawan Wazeerees. The revenue is 30,000 rupees.

10th Ramzan.—Proceeded to Umarkhel on the road past Bandah Umarkhel. Saiyadan,—a collection of wooden and thatched houses.

At one kos beyond this, the Kuram river falls into the Indus. I forded the former, which in some places is knee, and in others waist deep. On the other side of the river is a quick-sand; on one side are the hills and the road to Kot-i-kafree, which is so narrow, that only one horseman can pass at a time. The Sikh force and guns were at Kot-i-kafree.

An Afghan chief, by name Shah Walee Khan, a Nyaze, was accompanying the Rajah: he was a brave man, and had performed good service. Suchet Singh however, got suspicious and afraid of him, and under pretence of getting him to look out for a gun road, sent him with a party of Sikhs, who, in compliance with their secret orders, murdered him on the road, as he was saying prayers, having dismounted for a time for that purpose. The Rajah then set out for Tak, by the Kuram valley. News was brought that the Khan had been killed by the Afghan Ghazees, who were in rebellion against the Sikhs, and prowling about. The Rajah, in great apparent distress at the intelligence, ordered the body immediately to be sent for, and buried.

There are two forts at Kot-i-kafree, both in ruins; one below, and one on the hill: from one kos beyond the hill, Umarkot becomes visible. The place consists of about a hundred houses, and two Hindoo



shops, situated beneath a hill. To the West is Dera Ismail Khan, to the East Eesakhel, to the North hills, and to the South the river Indus.

11th Ramzan.—Proceeded seven kos to Khusoor, a place inhabited by Afghans, who muster one thousand fighting men, under Hassan Khan, by tribe a Khusoor. There are five hundred houses, and eight shops. The cultivation depends partly on the rain, and partly on the river. To the West are the hills, to the East the river Indus, to the North Eesakhel, and to the South Baloot-i-Hazrat-i-Shah Eesa. The revenue of Khusoor amounts to eight thousand rupees. The inhabitants are friends with the Murwats, and enemies of the Eesakhel. Two kos from Umarkhel is the shrine of Shah Baloot, the road to which place is through jungle, abounding with date trees. There is a gun road along the river. At the shrine there are many fine trees, and a tank, stocked with duck.

12th Ramzan.—Proceeded to Dera Ismail Khan, which place need not be described by me, as it was visited by Capt. Dera Ismail Khan. Burnes, on his voyage up the Indus. I here met a servant of his proceeding to Bombay, in charge of a flock of sheep.

13th Ramzan.—Proceeded four kos to Bandah-i-Saiyadan, over Bandah-i-Saiyadan. good level ground.

14th Ramzan.—Travelled six kos to Kot, over a good level road without water.

15th Ramzan.—Proceeded seven kos to Mandye; sometimes over a level road, and at times over rising ground. The amount of fighting men in the neighbourhood is two thousand, under Gul Khan and Jahan Khan. There are seven hundred houses and fifty shops. The revenue is included in Karachee. To the west are the Suryanees, to the East Dera Ismail Khan, to the North the Murwats, and to the South the Myankhels. The inhabitants are Gaudapoors, of the tribe Barakhel, who are enemies of the Suryanees. On arriving, I introduced myself to Jahan Khan. In the course of conversation, he expressed his desire to procure some white "kushtah" of copper. This I showed him how to make, much to his delight, and he gave my companions three coarse shalakees, one piece of karbas, one maund of raisins and jalghozas, and two seers of Candahar tobacco; which latter was a most acceptable present.

19th Ramzan.—Travelled six kos to Karachee, a place inhabited by Barakhels, amounting to six thousand fighting men. The place Karachee. contains one thousand and five hundred houses and two hundred shops. There is a large grain exchange on Mandye here. There is a wall one and a half *guz* and high, round Karachee, through which there are numerous thoroughfares. There is a large tower in the town. The cultivation depends on the rain. The inhabitants are at enmity with the Suryanees, and reciprocal forays are constantly carried on. To the south toward the hills, are the Shekhans and Zarganees, and two hundred houses of fakeers, where the cultivation is carried on with running water. The headmen of Karachee are Alee Khan and Gul Mahammad Khan. To the east is Dera Ismail Khan, to the south the Myankhels, to the north Usturana, and to the west the hills. The revenue under the Sikhs is thirty thousand rupees. During my stay, the Sikhs wanted to increase it to 50,000 rupees. The above two headmen proceeded to Lahore, to lay a protest before the Maharajah. Two rupees a load is levied here from each merchant's camel. I had a letter of introduction to Alee Khan, from his younger brother Jahan Khan of Mandye. On my arrival at Karachee, Alee Khan came to see me, and treated me with great respect. After my interview with him was over, I took up my quarters in the mosque, where I tried to settle myself to sleep, not feeling inclined to eat from excessive fatigue. While my companions were satisfying their hunger, and I was yet awake, a man and woman presented themselves at the mosque door, wishing to see the fakeer that had arrived. On enquiring the cause of this untimely visit, the man informed me he had a young wife at home, possessed of a devil, which he entreated me to cast out. I promised to do all I could in the morning; they went home, and returned with an entertainment of bread, ghee and curroot. In the morning, the "Pesh Nimaz," or clerk and the people came to the mosque to prayers; I was kicked up out of my sleep, to join them. I arose, and made my ablutions; but not knowing the proper positions for the Sunnee ritual, I was very nervous. I however got through the ceremony, by copying faithfully the man who stood next me. After prayers, I was taken by my friend of the preceding night to his house, to cast out the devil. By this

time I had become known in the village, and the people came to me in crowds, especially women, some begging for charms to increase the attention of their husbands, others for charms to get them husbands; upon others I spat, at their request, to cure cutaneous diseases. Towards evening, they brought me the woman possessed of the devil, whom I proceeded to cure, [God pardon me,] in the following manner: Wrapping

up some of the detonating powder in a paper, I gave  
Casting out a Devil.

it to my servant to keep; then sending for the woman, and wrapping up in a piece of paper a small quantity of ashes in the presence of the people assembled, I gave it to my servant to give her, that she might deposit it in an old grave-yard for the night. I had of course before given orders to my man, to give the woman the detonating powder, instead of the ashes. The woman implicitly followed the instructions, and next morning returned with the paper, accompanied as usual, by many people. I then ordered the woman to place the ashes on a stone, and putting a rod of iron into her hand, directed her to watch a sign from me for striking the ashes: I then commenced vehement incantations, becoming very excited at times, until at the given signal, the ashes were struck, and a loud report, as of a matchlock, succeeded, when I ended by exclaiming, "I have shot the devil; now you are cured." The populace were astounded, and loaded me with their attentions. I remained three days at Karachee, and on my departure, presented the woman with a looking-glass I had purchased for two rupees, telling her to look at herself in it, whenever the devil felt again inclined to return. To the east of Karachee is Dera Ismail Khan, to the west the hills, to the north Usturana, and to the south Tak.

23rd Ramzan.—Proceeded seven kos to Rohree, a place containing eight hundred houses and three Hindoo shops. The Rohree. fighting men amount to one thousand. The cultivation is carried on with running water. To the east is Dera Ismail Khan, to the west the Hills, to the north Karachee, and to the south Tak. The headman is Mahammad Raheem Khan, by tribe a Barakhel. The inhabitants are enemies of the Suryanees. The houses are in a fort, and the ruler distributes justice on a low platform outside. On arriving, he refused me entrance, and I put up at a running stream near at hand, and having cooked a pillau, invited the

governor to join us: upon this he insisted on my occupying a seat near him and partook of the fare, and in the evening sent me a "*lyaf*" or coverlid; under which, owing to its inhabitants, I got no rest.

24th Ramzan.—Proceeded nine kos to Tak. The chief Alladad

Tak. Khan, who was then an exile, is by tribe a Doulatkhel. In

his late incursion, he burnt all the neighbouring villages. At Tak [i-Sarwar Khan] I found the following Sikh force; viz. Jemedar Mahommed Hashan, and one hundred sowars, and five zambooraks. Chet Singh Kumedan with a like detachment. Lena Singh, with one hundred ghorahchars. Saidar Ram Sing, with a like number, one hundred other ghorahchars, dispersed in small bodies; six hundred infantry of the regiment of Futteh Singh Aloowala, one gun. Nadir Alee Khan, Baloch Khan, and Mayan Khan, with forty horse, besides other footmen.

There is a smaller fort within the fort of Tak, called Narinj Kilah,

Citadel. within which there are three wells: and inside the outer

fort gate are seven guns and twenty-five zambooraks, all manned. Guns can be mounted on all the four bastions of the Narinj Kilah, to receive which, there are "damdamas." The breadth of the wall is four *guz*. There is an "alampana" or *fausse braie*, and a ditch, nine *guz* broad. There are two gates to the Narinj, one to the east near a garden, another to the west. There are seven gates to the

Gates. outer fort, called respectively, Nourang, Peer Dastgeer, Hazrat Eesa, Sarbanan, Mooree, Panch Tanpak, and Maranee. The

fort is surrounded by gardens, around which again there is a wall having three gates. Three sides of the fort are surrounded by broken inaccessible ground. The only good approach is from the direction of Dera Ismail Khan. The Doulatkhels amount to two thousand fighting men, and are enemies of the Wazeerees. In the whole country of the Doulatkhels, there are two running streams; one called Tak, the other Kamal. To the east is Dera Ismail Khan, to the west Daraban, to the north the Myanees and Wazeerees, and to the south the Gandapoors. The road from this to Cabool is almost impassable, from fear of the Wuzeeree plunderers; the general road taken by the

Road to Cabool. Luhanee and other merchants, is from Daraban. The cultivation is carried on by running streams. The

revenue in the time of Sarwar Khan, was 23,000 rupees. The produce no doubt amounted to 200,000. It now costs the Sikhs more than it is worth.

The fort of Fattehgur is dependent on Tak, and is a very strong place, situated on an eminence. It belonged to Alladad Fattehgur. Khan, who entrusted the command to Anayatulla Khan, one of his most trustworthy men. On the Sikhs gaining possession of Tak, this man surrendered his trust to them, and was again installed in the command. The fort is situated to the west of Tak, at the entrance of a valley. The inhabitants of the neighbourhood are Myanees. The fort is surrounded by a *fausse braye* and a ditch, nine *guz* wide; two of the bastions are fitted for bearing guns. There are two wells inside. The inhabitants do not amount to more than two hundred. To the east is Tak, to the west the Myanees, to the north the Gandapoors, and to the south the fort of Thattee.

5th Shawal.—Travelled six kos to Mameer, a place containing twenty-five houses, situated at the base of a hill. Mameer. The inhabitants are all robbers. It is a dependency of Tak. These people act as guides to the Myanee and Wazeeree robbers, who make excursions into the Tak territory, and receive a share of the plunder. As the main road to Shinkee was impassable, being infested by thieves, I determined on going in company with my new Persian writer, a man of Alladad Khan's, and a guide procured from Mameer, by a hill bye-road to Bandah-i-Saiyadan, where I arrived

Bandah-i-Saiyadan on the 6th Shawal.—There is a shrine here of Shekh Kalamkar, and the Wazeerees bring offerings of wheat, and heap it on the ground, and no thief is bold enough to steal any of it. The Sayad alone, in times of scarcity, when they cannot procure it

Sacred Granary. elsewhere, make indents on the store. The road is hilly, and for some distance through a defile. There are fifty houses of Sayads. On arriving, I put up in the mosque, where one of the Sayads brought a son of his to be cured of a cataract in the eye. This I promised to do, if he would allow his son to accompany me to Shingee, which he did. The length of the stage was seven kos.

7th Shawal.—Proceeded six kos to Chandoulah, over hills through Chandoulah. defiles, and crossing a stream that flows from Kanee-guram to Tak, at least twenty times. The place is

situated at the entrance of the Wazeeree valley, and contains about one hundred houses. I took up my quarters in the mosque as usual; my writer had an acquaintance here who entertained us. The hills abound with iron, that the people work and take to Kot-i-Singee.

8th Shawal.—Set out with the intention of proceeding to Aleekhel. The road was through jungle, defiles, and over hills. On arriving at a stream I halted, and made preparations for cooking, when a party of six men, apparently robbers, presented themselves, and par-

Meeting with Robbers. took of the fare, and smoked our *chillums*. They then questioned us as to our homes, and the object of our journey. I replied, that we had come from Mecca, and were proceeding home to Baghdad. They then asked what we had with us. I replied we were poor Hajees, and had nothing but a few medicines. These they requested to see. On my complying with their request, the English writing on the packets attracted their attention, and demanded

Discovery. what the strange character was. I replied that they were marks of my own invention, and mere help to my memory, marking the different medicines. They became suspicious, and opening my bundle, extracted the articles that pleased them most, such as penknives and scissors. They then bound us and took us to Khel-i-Masaood, beating us all the way, and on our arrival, sent for the village Akund and shewed him the inscriptions. He immediately decided that we were Feringees, in which opinion the Akhund confirmed them also, on reading the notes of the road my Persian writer had. We were very badly treated during our captivity, which lasted twelve days, and were

Captivity. daily threatened with death. They endeavoured to make my companions give evidence against me, by beating them apart, and promising them freedom if they would confess. During their punishment, they would allow I was a Feringee, but when it ceased, declared only I was a fakeer. When we were alone, I warned my companions not to peach, as we should certainly all be killed. A man of Kheli Masdood went one day on an errand to Kot-i-Singee, the head-man of which place was Dilasa Khan, who on enquiring the news, was informed, that some Feringees had been discovered and confined in his village, and they were thinking of killing them. Dilasa Khan being a great friend of the late Mr. Moorcroft, on hearing this, immedi-

ately set out, and arrived where we were confined, Mr. Moorcroft.

and had us released, and our property restored; and taking us with him seven kos to Kot-i-Singee, entertained us three days, killing a sheep for us every day. Here we witnessed a peculiarity in Wazeeree hospitality. The sheep, when killed, is brought with all its eatable appurtenances, and placed before the guest, the villagers assemble round, and every one helps himself to the pieces he likes, which are "*kababed*" [the breast always,] and the rest is put in a pot to boil. It was the 21st Shawal when I arrived at Kot-i-Singee. The number of fighting men is six thousand, who acknowledge no rule. The headman is Dilasa Khan, by tribe a Massaoodkhel Singee Wazeeree. To the east is the Ghola-ree Pass, to the west the hill, to the north Kaneeguram, and to the south Tak. There are nine blacksmith's shops, and three of Hindoos. There is a mud fort, containing four hundred mud houses and woollen tents. Dilassa Khan entrusted me with a letter to Capt. Burnes, and furnished me with a guide to Cohaut, who ran away after having accompanied me three kos. The inhabitants are enemies of the Tak people. Dilasa Khan is suspected, not without reason, of being in the pay of the Sikhs. During my stay, he pointed out an eminence on which Mr. Moorcroft promised to build a fort for him. The kindness he experienced from the above gentleman, would at any time incline him to serve the British Government.

25th Shawal.—Proceeded seven kos to Kot-i-Aleekhel, passing often through water and jungle, and a Pass, which extends to Kaneeguram. The Aleekhels muster four thousand fighting men. To the east is Thattee, to the west Bamroo, to the north the Ahmadzyes, and to the south the Myanees. I put up in the mosque very tired; scarcely an hour had elapsed when a man presented himself, saying his son had a bad ball wound, and wanted me to attend him. Being tired and wanting a guide, I told him I had not now the requisite apparatus, but if he would send some men in charge of his son on with me to the next town, I would try my best. To this the man would not consent, and took his leave. The road was very bad, and everywhere were veins of iron, and signs of where it was being, or had been, worked.

26th Shawal.—Arrived at Kaneeguram, which is the capital of the Kaneeguram. Wuzereee country. The cultivation is carried on by running streams. The inhabitants are Sayads, who are the spiritual fathers of the Wuzereees. The houses are upper-storied, and amount to four hundred. There are two large towers for the protection of the town. There are thirty-two shops, as follow; viz. sixteen of Hindoos, seven blacksmiths and cutlers, three goldsmiths, two scabbard makers, and four dyers. The headmen are Durvesh Khan, Sarwar Khan, Mulook Khan, Abdukahman Khan, Raim Khan, and Noor Khan. The amount of fighting men is five hundred. The Sayads are farmers; the Wazereees are independent, and are mostly herdsmen. They are at enmity with the neighbouring tribes, but internally Concord. united. To the east are the Khataks, to the west the Gholaree Pass, to the north Dour, and to the south Tak. The cultivation is not at all proportionate to the supply of water; the stream River. that runs to Tak has its rise here. To the west, in the Pass, is a very lofty and extensive black mountain, called Peer Karal, in Peer karal. which I was informed copper is to be found. Disputes between the neighbouring chiefs led to the mines of this mineral being closed. The people also believe in the existence here of stones impregnated with gold. I much wished to visit this mountain, but was prevented by the cold, and want of a guide. Throughout the hills iron abounds, and there must be no less than fifty or sixty manufactories. The price of unwrought iron is 3 rupees Mehrabee the pukka Price of Iron. maund. In Tak the Wuzereees sell the quantity for 4 and  $4\frac{1}{4}$  rupees. Merchants purchase it from the Wuzereees for  $2\frac{3}{4}$  and 3 rupees. Beyond the Peer Karal hill, coal is Coal. found, which is called “Sang-i-momyie.” The method of extracting the iron is as follows: A pit is dug, about three and half Iron. feet in diameter, and the same in depth, the top of which is closed with a perforated cover of clay: over this is spread a coat of charcoal, which is made in great quantities in the neighbouring hills; over this the stones containing the iron are heaped, being first broken small, and over them again charcoal is heaped; round this heap five or six bellows are applied. The iron falls through the perforated cover into the pit, from which it is extracted to be wrought before being sold. The iron in being wrought, loses three-quarters and five-eighths



of its weight. This process is alone undertaken by blacksmiths. The Wazeerees are divided into four classes; viz. Masaoodyes, Ahmadzyes, Aleezyes, Bahlolzyes. The headmen of the Ahmadzyes. Ahmadzyes are Bano Khan, Shekh Bayo Khan, Painsa Khan, Neko Khan, Kazim Khan, and Pasham Khan. The fighting men amount to four thousand. To the east they have the Khattaks, to the west the Masaoodyes, to the north Khost and the Torees, and to the south Bannoo. The headmen of the Aleezyes are Aleezyes. Mahommed Asan Khan, Durvesh Khan, Sarfraz Khan, Mahommed Khan, Sayad Shah, Mulla Ghaib Khan, Khudadad Khan, Tooran Khan, Wilayat Khan, Sarwar Khan, and Hatim Khan. They muster from four thousand to four thousand and five hundred fighting men. To the east they have Thattee, to the west Bannoo, to the north the Ahmadzyes, and to the south the Myanees.

The headmen of the Bahlolzyes are Nasrat Khan, Sair Khan, Bahlolzyes. Salamat Khan, Deerut Khan, Bazzul Khan, Alee Mahommed Khan, Mulla Nadir Khan, Meer Allam Khan, Dost Khan and Gul Rez Khan. They mustered three thousand and five hundred fighting men. To the east they have the Admadzyes, to the west Kaneeguram, to the north Dour, and to the south Thattee.

29th Shawal.—Proceeded nine kos to Manzakee, over a hilly road, through a jungle. It is situated between two streams, Manzakee. and consists of forty houses; beyond the stream to the south, are other thirty houses. There is a water mill in play. The headman is Mushkeen Khan, by tribe a Shahookhel. Number of fighting men one hundred. They are at enmity with the people of Dour. I put up on arriving in a blacksmith's shop.

1st Zeekadah.—Travelled seven kos to Kamsar over a hilly road, and through a jungle. On descending from one of these hills, I stopped for a short time on the borders of a stream, with the intention of taking some refreshment, when I observed a party of four men advancing towards me; fearing they might be thieves, I had recourse to my detonating powder, and placing some on a stone at my feet, awaited their approach, when they drew near, in attempting to rise. I rested my walking stick on the powder, exclaiming "Ya Allee mad-dat," (help! oh Allee.) The usual explosion ensued, and the Thieves. thieves, for such I still suspect them to have been, ap-

proached me with great reverence, and requested that I would bless them by clapping them on the back. The head man of Kamsar is Noor Khan. The number of fighting men is eighty. They are at enmity with the people of Dour. The place is surrounded by hills, and is itself situated on an eminence. There are three Hindoo shops. On arriving I put up at the *mehman khanah*, and introduced myself. They brought a bed for me, on which I seated myself. They then asked me if I had dined, I replied that I had now entered their country, (a hint that I depended on their hospitality,) one of them immediately rose, and brought some rice and butter milk. While I was dining, a Hindoo presented himself, and complained that he had a wife, who had presented him with three children, but was dumb; I suggested, that she must

Dumb Woman.

be possessed of a devil. He insisted on my accompanying him home. This I did, saying that I would put a copper pice and a rupee into a vessel of water, and that one or the other would leap out; if the former, he must distribute a fowl and some copper change in charity; if the latter, a sheep. A vessel being produced, I proceeded, with the aid of my servant, to discolour the

Jugglery.

water, in order to conceal the contents which consisted of a steel spring, confined by means of a piece of rock salt, on which I placed the rupee during my incantations. The salt of course in time melted, and the spring expanding, jerked the rupee out of the water. The sheep was accordingly given me to sacrifice, as well as the charmed rupee; and in return, I gave the dumb lady a looking glass, in which she was punctually to look at herself, whenever threatened with a return of the dumb devil, which I assured them would either quit her after seven days, or seven weeks.

3rd Zeekadah.—Proceeded to the valley of Dour, which is embosomed

Dour.

in hills. The cultivation is carried on by running streams. There are about one hundred, or one hundred and fifty different forts and villages in the valley. Three of the forts are large, the residences of the Malik. They are Thattee, Ismailkhel, and Hyderkhel.

The headman of Thattee is Mahommed Khau, by tribe a Khattak.

Thattee.

There are six hundred houses, and sixty-five Hindoo shops. The number of fighting men is one thousand. They are at enmity with the Wazeerees. To the east are the Hasankhels, to

the west, the Utmanzyes, to the north Khost, and to the south the Wazeerees.

The headman of the Moosakhels is Alee Khan. The fort of Moosakhel and suburb contain seven hundred houses, and one hundred Hindoo shops. From Thattee to Moosakhel is five kos. The number of fighting men is three thousand. They are at enmity with the Wazeerees. To the east are the Hasankhels, to the west the Utmanzyes, to the north Khost, and to the south the Wazeerees.

The headman of the Hyderkhels is Kamal Khan. The town of Hyderkhel contains three hundred houses, and thirty-five Hindoo shops. The country between Moosakhel and Hyderkhel is particularly fertile and well watered. The distance is six kos. There are two Sayads here, who are much looked up to. They are Furmals of Kaneeguram; their names are Jawaher Shah and Ghareeb Shah. All disputes are settled in their presence, and they draw no contemptible revenue from the district. In every field in the valley, there is a tower built for its defence. They are much divided among themselves. The fighting men amount to two thousand. They are friends with the men of Khost and Bannoo, and enemies of the Wazeerees.

There is a peculiar tribe in the hills of Dour, that shave one eye-brow, one mustache, and half the beard; and apply antimony with the finger above and below the eye, so as perfectly to disfigure their faces. The men of Dour assemble once a week, at an entertainment got up by subscription: every one attended by his catamite boy, and during the repast, the most disgusting attentions are paid to them, and most revolting caresses received from them. To the east are the Hasankhels, to the west the Utmanzyes, to the north Khost, and to the south the Wazeerees. The people of Dour are perfectly independent. The distance from Moosakhel is six kos.

20th Zeekadah.—Proceeded eight kos to Usmankhel, which is a dependency of Khost. The inhabitants who are robbers, live in hair tents, which are thirty in number. They pay no revenue. They are migratory. The road to this place is difficult and hilly.

21st Zeekadah.—Proceeded twelve kos to Khost, having procured Khost. a guide over a difficult hilly road. The cultivation is carried on by running streams; but on account of the unquiet state of the neighbourhood, half the land is waste. There are three hundred and fifty houses, and thirty-five shops, The headman is Sahibzadah Ahmed Shah, [a holy character,] a descendant of Peer Holy Character.

Dastgeer, Shakar Khan, Nooradeen Khan, Ismail Khan and Abdulla Khan. The fighting men amount to five thousand. They are at enmity with the Wazeerees. They are ryots of Dost Mahommed Khan of Cabool. To the east are the Wazeerees, to the west the hills and the Jadrans, to the north the Toorees and the road to Kuram, and to the south the Thattee hills. The revenue amounts to 30,000 rupees, of this sum 5,000 rupees are distributed to the Maliks, the remainder is given in jaghire to Alladad Khan, the son of Sarwar Khan of Tak, who sought refuge at Cabool, on losing his possessions; and to whose son, Dost Mahommed gave a daughter in marriage. I presented the Sahibzadah Dost Mahommed. with a penknife and a pair of scissors, and he in return furnished me with a guide.

25th Zeekadah.—Return to Usmankhel, and retracing my steps via Hyderkhel, on the 27th Zeekadah arrived at a town on the boundary of Bannoo, the headman of which place is Dilasa Khan, surnamed the Ghazee.

The district of Bannoo is flat, and fertilized by running streams, partly from one which comes from Dour, and partly from the Bannoo. Kuram river. The district is highly cultivated. There are full four hundred, if not five hundred forts and villages in the district. The district is divided into four tappas, or rather five; viz. Eesakee, Meeree, Suryanee, Khamsee, and Chandookhel.

The headman of Eesakee is Dakas Khan, and it is again subdivided into four tappas. The fighting men amount to four thousand. Eesakee. The revenue amounts to 22,500 rupees. The four tappas are Longarkhel, under Dakas Khan; Nukradeenkhel, ditto ditto; Sikanadarkhel, ditto ditto; and Shamseekhel, under Kalandar Khan, who resides at Kalandarkhel. Dakas Khan resides at Bazar, which is the Bazar. capital of Bannoo. It contains five hundred houses, and eighty Hindoo shops, five dyers, and five blacksmiths. This place is

called Bazar, because all the inhabitants of Bannoo come here to market.

The headman of Meeree is Meer Baz Khan. It is sub-divided Meeree. into six tappas. The fighting men amount to 3,000, and the revenue to 30,000 rupees. The six tappas are:—

Kakee, under Shahbaz Khan; Obad, ditto ditto; Hasankhel and Mamookhel, under Hyder Khan; Naswarkhel under Ghazee Khan and Ameer Khan; Sarkee under Meer Baz Khan; and Mandyoo under Alam Khan.

The headmen of Suryanee is Dilasa Khan Ghazee. It is sub-divided Suryanee. into five tappas. The fighting men amount to three thousand, and the revenue to 25,000 rupees.

The five tappas are:—

Daood Shah, under Dilasa Khan Ghazee; Mandahkhel, under Bazeed Khan and Meer Kalam Khan; Walakdeenkhel, under Zapt Khan; Ghazeekhel, under Zahar Khan; and Hek-mis-kee, under Sekandar Khan.

The headmen of Shamsee are Jangee Khan, Meerash Khan, and Jafar Khan. The fighting men amount to two thousand, Shamsee. and the revenue to 22,500 rupees. It is sub-divided into four and half tappas, as follow:—

Barkhajaree-Sarkhajaree, under Janghee Khan and Jafar Khan; Ismailkhel and Meerakhel, under Sirdar Khidr Khan; Waleekhel and Sikandarkhel, under Meer Wais Khan; and Daree-Deeree, under Namwar Khan and Gada Khan.

The half tappa Meetakhel and Fattedkhel, under Sirdar Ameer Khan. The chief of the Chandookhelan is Sirdar Sher Mast Khan, noted Chandookhelan. throughout Bannoo for his hospitality. Ahmed Khan, Refuge, the ex-chief of the Eesakhels, has sought refuge here. Dakas Khan is, however, the chief of the greatest note in Bannoo. The number of fighting men is four thousand. This district is much deserted, on account of the Sikhs levying three-sixteenths of the produce as revenue.

The cultivation of the district consists of turmeric, sugar-cane, rice, cotton, wheat, barley, and juwaree

The inhabitants of Bannoo, denominated Bannoowals, are friends with the people of Dour, and enemies of the Wazeerees. They have

also, to a great extent, feuds among themselves; and are ryots of Runjeet Singh, but very unsteady ones; and their revenue is generally collected by large detachments. To the east and north are the Khattaks, to the west the Wazeerees and Dour, and to the south the Murwats.

I remained on the boundary of Bannoo two days, and at Chandookhel three days; the distance between the places being five kos.

2nd Zeehijjah.—From Zakookhel Chandookhelan, proceeded eight kos to Umarkhel, a dependency of Murwat, over a sandy Umarkhel. road, with the exception of the two first kos. The place contains thirty mat huts; their drinking water is two kos distant. The cultivation depends on rain. Each house subscribes a vessel for the mosque and for strangers.

3rd Zeehijjah.—Proceeded to Murwat to the village of Lakkee. Lakkee. The cultivation depends on the rain. This is the principal town of Murwat. A small portion of the Kuram river is applied to cultivation. There are three tribes of Murwats.

Bahram, under Feroz Khan and Muhablat Khan, resident of Ghuznee-Bahram. khel; amount of fighting men two thousand.

Dreplarah, under Noora Khan and Allaiyar Khan, resident of Sangookhel and Asakkhel; amount of fighting men two thousand.

Moosakhel, under Hyder Khan, resident of Adamzye, and Cashmeer Khan, resident of Walee; amount of fighting men one thousand and five hundred.

—The former amount of the revenue of Murwat, in the time of the Revenue. Sadozyes, was 18,000 rupees, and in the time of the Nawabs of Dera, 50,000 rupees.

The town of Lakkee is situated in the division of Bahram; but the Lakkee. whole three divisions dispute about their claims to it. The Maliks of Lakkee are four in number; viz. Deewana Khan, Gouhar Khan, Jahan Khan, and Alam Khan. The town of Lakkee is composed of four hundred houses and twenty shops, three dyers, and two blacksmiths. They are now ryots of Runjeet Singh, but compulsory ones, and their revenue is only collected by detachments of Sikh troops. They are friends of the Bannoowals, and enemies of the Wazeerees.

Proceeded on leaving Lakkee to Lachee Teeree, a dependency of Lachee Teeree. Cohaut, under the rule of Runjeet Singh, a jaghire

of Sultain Mahommed Khan Barikzye. There are only four salt mines in the whole Khattak country: two in the district of Lachee, called Malgeen and Cheena, and two in that of Teeree; the salt from the latter is black and mixed with small pebbles. That of the Lachee mines is of a superior quality. The district of Lachee is farmed by Saidan Shah, for 22,000 rupees. In the district are included the mines, Ismailkhel, Meer Ahmadkhel, and Malgeen. The pay of Saidan Shah is five thousand rupees, and his jaghire is in Cohaut in the district of Sher Khan. He has in his employ twenty horsemen.

The mines of Chotara are known by the name of Maheekhel and Karz Kurooz, and are farmed by Shahbaz Khan, Akarkhel of Teeree, the capital of the Khattak country.

The price of salt in Teeree and Chotara is twelve ass loads, or eight bullock loads for one rupee of the Sultan Mahommed Khan's coinage; ten pice is levied on every bullock load, and eight pice on an ass load; one pice the load is levied by the miner.

One-fourth of the government duties on Lachee salt is given in pay to Maliks Nadir and Bahadur, who superintend the whole districts of Khurm and Thattee. In the winter, Afghan merchants export thousands of camel loads of this salt to Cabool, Jelalabad, Peshawur, and Bajour.

The salt of Chotara is exported only to Bunoo, Khost, Murwat, and the Derajat.

The fighting men of Lachee amount to three thousand. Two kos from Lachee are three hillocks of yellow earth, in which are flat flakes of stone, which burn. There are also two springs of naphtha.

Teeree, which is the capital of the Khattak country, has a fort with four bastions, which is situated on an eminence. It was repaired by Sirdar Attar Singh Aloowalya, who conquered Cohaut. The whole of the district of Teeree is managed by Shahbaz Khan, son of Sadullah Khan, Akorkhel, who has farmed it from Sultan Mahommed Khan, for 30,000 rupees. His own pay being 3,000. He furnishes one hundred and ten horsemen. There are three tappas dependent on Teeree; viz. Darra Barak, Chotara, and Shakar Darra. The fighting men of Teeree amount to three thousand.

The cultivation depends on the rain, and their drinking water is from a spring, which becomes brackish soon after issuing from the *Goitre*. ground. The men and women here are all afflicted with the *goitre*, which they say, arises from the salt quality of the water.

The people all dress in red. They are gradually, under the rule of Shahbaz, beginning to reinhabit the suburbs of the repaired fort, called *Narinj*, which contains one hundred houses; the other old fort contains one hundred and fifty.

On arriving at Teeree, I put up in the mosque, when shortly after, a very good looking woman presented herself, bringing with her bread and halwah, which she presented to me. Then taking hold of my skirt, begged me to attend to her petition. This was to give her some Charm. charm, to attract the attentions of her husband, which had for the past six months been divided among his other wives, to her entire exclusion. I ordered the Persian writer to make out the necessary charm, and gave it to her, as well as a piece of sugar-candy, which I charmed by whetting it with my saliva, while I repeated supposed incantations over it. This she was to give her husband to eat. Whether he was pleased with the perhaps unusual attention and fondness of manner of his wife, or how it was, I know not; but she Success. returned to me next morning, with a present of a sheep, much pleased with the effect of my charm.

My fame for charms soon spread, and fearing that I should have hosts of female applicants, and that some of my charms might not prove so efficacious as the first, I was glad to take my departure.

On leaving Teeree, at the distance of three kos at the entrance of the *Darra-i-Barak*, is the ruined fort of *Rajnagar*, generally known as *Shahbazar*. It is of a square construction, situated on an eminence, and has a very large tank inside. The position is a very strong one. Coal is found in the *Darra-i-Barak* in the bed of the ravine, by digging. It is brought here by Coal. floods, and there is no bed of it. To the east of *Rajnagar* is the *Lachee* road and the *Darra-i-Barrak*, to the west the *Darra-i-khattak*, to the north the *Khattaks*, and to the south the *Khattaks*, *Shakar Darra*, and *Baghan*.



Leaving Lakkee, I proceeded seven kos to Latamar; a dependency of Chotara, over a bad road, without water. The headman is Daraz Khan.

From Latamar I proceeded seven kos to Karak, over hills and Karak. through defiles; drinking water is procured from a spring, which turns brackish at three or four paces from where it leaves the ground. The headmen are Sangee Khan, Danial, and Darab Khan. This place is pleasantly situated in a valley. On arriving, I put up as usual at the mosque, when two men, father and son, presented themselves, and requested my aid in the following matter:—

Complaint of Theft. The son had sold a cow for 20 rupees and given the money to his mother, who said it was lost, and he wanted to know, whether his mother, sister, or wife, was the thief. I enquired if any one else had been in the house. He replied in the negative. I enquired of the mother, where she had laid the money?

Conjuring. She replied underneath the clothes. I then proceeded to arrange my conjuring apparatus of the bowl of discolored water and steel spring; and writing the names of the five members of the family each on a separate slip of paper, confined each slip to a copper pice, by a layer of dough, and placed one of the pice on the spring. This in due course of time, by the process before described, was forcibly ejected from the bowl. Taking it up, and stripping off the dough, I proceeded to read the name. Then wisely shaking my head, I said, "Now I know the thief, who shall be exposed, if the money is not restored before

morning." At midnight, I was gently awoke by the complainant's wife, who confessed to the abstraction of the money, and promised to do any thing, if I would not expose her; at the same time she counted into my hands the missing 20 rupees. In the morning, when the husband came to see me, I presented him with the rupees; saying, I had the greatest trouble in recovering them from the genie who had taken them away. Some of them were pressed on my acceptance, but I refused them, in order to sustain my character; but the good people would not be content, until they had cooked and packed up two fowls for my journey, on which I was accompanied for two stages by the grateful owner of the rupees.

From Karak I proceeded five kos to Meetakhel, over salt hills. Meetakhel. The headman is Alladad Khan.

From Meetakhel I travelled six kos to Zamankhel, over salt hills  
Zamankhel. of a red colour.

Thence I proceeded four kos to Kuharkhel, over salt hills and  
Kuharkhel. through a jungle, and the next day six kos to Teeree.

From Teeree I proceeded five kos to Mameekhel, over a high Pass,  
Mameekhel. impracticable for artillery.

Thence I proceeded seven kos to Seemaree over a hilly tract; one  
Seemaree. division of this place, Seemaree-i-Paiyeen, is dependent  
on Hangoo. The headman is Mazulla Khan. From this place I had  
intended to visit Hangoo; but my funds being expended, and hearing  
from Meerza Samad, the son of Meerza Abdu Raheem, who had come  
to collect the revenue for his master Sultan Mahommed Khan, that a  
Persian acquaintance of mine, by name Agha Mehdee Khan of Ispahan  
was at Cohaut, I determined to proceed to that place, to procure  
his assistance. Meerza Samad entertained me with dancing and  
wine, the evening I staid with him.

From Seemaree I proceeded six kos to Jabba, which is dependent  
Jabba. on Cohaut, over a high Pass, on the top of which is a tank.  
The whole of my stay in Lachee and Teeree, amounted to nine  
days.

12th Zeehijjah.—Arrived at Cohaut, and proceeded to the house of  
Cohaut. my acquaintance, Agha Mehdee. Here the Persian writer  
became clamorous for pay. I silenced him, however, with some trouble,  
by promising to return from Peshawur with the necessary funds,  
for which place and purpose I accordingly made my arrangements for  
starting.

On arriving at Peshawur, I took possession of the manuscripts I  
Digression to Peshawur. had sent from Tak by the hands of my cossid,  
whom I met here, and lost no time in making search  
for a fresh Meerza. I at last procured one, by name Safdar Shah,  
through the aid of Captain Burnes' Cafila Bashee, a resident of Peshawur;  
who after a great deal of hesitation, lent me some money, and  
took the security of Safdar Shah's father, that he would not desert me.

Returning from Peshawur, I arrived at eight kos at Mitanee; passing  
Mitanee. Bara-i-Kalan, and the following Momand villages; viz. Bahadur,  
Mashookhel, and Ouzye, &c. over ground abounding in ravines  
and jungle.

From Mitanee I proceeded seven kos to Akhor, and put up with Malik Akhor. Hakeem Akhorwal, by tribe an Afreedee, and a great robber. The road was stony and through defile. At the entrance of the defile are two ruined forts and a large tank. There is a large town here, erected by the Afreedees. One thousand rupees are yearly levied here on salt.

From Akhor I proceeded to Cohaut over a hilly road, and through a defile; the neighbourhood abounding with Afreedee villages, and put up with Agha Mehdee in the village of Myankhel, near the shrine of Hajee Bahadur. On the road passed the village of Zarghoonkhel, where there is a large tank and four towers, one at each angle of the village, and four kos further on, passed the village of Torakee, which is situated on an eminence; and then the Cohaut kotal or Pass, which is very difficult, especially of descent. On the top of the Pass is a tower, nominally for the protection of the road; but it is garrisoned by twelve men of the Afreedee tribe, who, although entertained and paid by the governor of Cohaut, are often themselves engaged in plundering merchants and travellers. At the bottom of the Pass is a second tower, garrisoned by twenty men. At Cohaut I discharged the former Meerza, having paid him up.

Cohaut is divided into three tappas, as follow: Bazeekhels, Samalzyes, and Meeranzyes.

Cohaut itself is included in the territory of the Bazeekhels. The fort of Cohaut, in which the governor resides, is of a square form having four bastions, and situated on an eminence. There is a second fort, in which there is a dwelling house and reception room, over which is the *mehman khanna*. There is a tower in the fort at the entrance and a covered well; drinking water is procured from seven springs outside the fort; three of the springs gush out from near the Telee's mosque, Bazar, and four from the vicinity of the Bazar, by which four mills are turned. There are fifty shops, four mosques, and two dharmshals.

Cohaut has to the east the Afreedee country, the Torakees and Soorakees, and Khushalgar, to the west Hangoo, to the north the Pass, and to the south Lachee and Dour.

The following are the neighbouring dependencies of Cohaut, entered into the daftars as Bangash-i-Paiyeen Jangal, under Shah Zaman and Aslam. The cultivation is car-

ried on by running water. There are one hundred and fifty houses. The fighting men amount to one hundred and ten. They are friends with the Sepas, and enemies of the Khattaks.

Peerkhel, under Maliks Raz and Jafar. There are one hundred Peerkhel. houses, and eighty fighting men, who are friends of the Sepas, and enemies of the Khattaks.

Garee Myankhelan, under Malik Nasarulla, contains fifty houses. Garee Myankhelan. The cultivation is conducted with spring water. In this division, the shrine of Hajee Bahadur is situated, as well as a large mosque, and a well with a Persian wheel. The fighting men amount to one hundred.

Bezadee, under Maliks Arsala and Siffat, contains one hundred Bezadee. houses, and eighteen shops, and turns out sixty fighting men.

Meer Ahmedkhel, under Malik Mahmood, contains fifty houses, and turns out thirty fighting men.

Shekhan, under Malik Sheraz, Afreedee, Zarghoonkhel, situated at Shekhan. the base of a hill, contains eighty houses; and turns out fifty fighting men.

Kaghazee and Nasratkhel, under Malik Noor. A number of other Kaghazee and Nas- villages have been deserted on account of the ty-  
ratkhel. ranny of Sher Alee, the former governor. The cultivation is carried on from the river. The above two khels contain fifty houses, and turn out eighty fighting men; and are the jaghire of Ismail Khan, son of Jahandad Khan Popalzye.

Mahommedzye, the jaghire of Agha Mehdee is under Malik Bashar, Mahommedzye. and contains two hundred and fifty houses, and two water mills. The number of fighting men is 95.

I paid a visit to the famous koh or hill of Ahad-i-Saboor, so much Ahad-i-Saboor. talked of by the people of Cohaut. It is situated on the road to the Samalzyes, and beyond Mahommedzye and Nasratkhel. I had heard that there was an old inscription which no one could read, and went therefore prepared to copy it: also, that there were the ruins of an old square fort, with the remains of the stable, harem, and pillars of a throne. I went in company with a party Shah Kotah. from Cohaut to this hill, which is also known as Shah Kotal. The foot of the hill is covered with jungle. On the side of the hill is an opening or cave, and on the outside are two sta-

lactite looking pillars, the whole place evidently natural. The inscription alluded to, was nothing in my opinion but natural crevices and marks in the rock. On the hill are just perceptible, the remains of a very old fort. There is also a spring of water, and a large "peepul" tree. Adjoining this hill, is the hill of Damchoor, which extends to the Pass of Cohaut.

Bar is under Shahbaz Khan, and contains sixty houses and several vineyards. The cultivation is carried on by running water.

Kamar Dand is under Gul Sher Khan, and contains thirty houses. Kamar Dand. The cultivation depends partly on rain, and partly on running water.

Soorgal and Jabba are under Euland and Musaib, Zarghoonkhel Soorgal. Afreedees. The cultivation is carried on by water from the Kuram river. The fighting men amount to 50.

Jarma and Shapoor are dependencies of Garee Myankhel, the former Jarma and Shapoor. is nearly a waste; and the surrounding jungle is very dense.

Togh is under Mulla Ahmed and Kaim, and contains four hundred houses. The cultivation is carried on by a large canal from the Kuram river. The fighting men amount to 160.

Teeree Tang is under Malik Nasro, and contains two hundred Teeree Tang. houses, and turns out 70 fighting men.

Khurmatoo is under Kuram Sher, and is cultivated from the Kuram Khurmatoo. river. The fighting men amount to 80.

Thattee and Maramzyes are under Malik Himmat, and contain Thattee and Maramzyes. one hundred and twenty houses. There is a great portion of waste land.

Kot-i-kandiyalee is under Maliks Akram and Aizam. It contains Kot-i-kandiyalee. one hundred houses, and 50 fighting men.

Gandiyabee Killa, known as Zanjeer Kamar, is situated on an emi-Zanjeer Kamar. nence, and is now in ruins. It is reported to have been built by the former Hindoo rajas. There are remains of bastions, a stable, and tank. Of the wonderful zanjeer, or chain, from which the place derived its name, there is of course no vestige.

Siah is under Gul Mahommed. The cultivation is carried on from Siah. the Kuram river. The number of fighting men is 60.

Tareekheli was formerly a dependency of Cohaut, it is now independent. They are neighbours of the Afreedees. The fighting men amount to 200.

Gadakhel is under Shahzadah and Khanawadah. The cultivation depends partly on the rain, partly on canals. There are four hundred and fifty houses. The fighting men amount to 200.

Dhoodah is under Mahboob. The cultivation depends on the rains.

Dhoodah. There are four hundred houses, and 80 fighting men.

Shadeekheli, Kamal, Mandakheli, Kotree and Muchkee are under Shadeekheli, &c. &c. Malick Samad, &c. There are four hundred houses, and the revenue amounts to 6,000 rupees.

The tappa of Bazee is under Naib Gul Maz Khan, whose family formerly enjoyed the whole of Cohaut. He is by tribe a Shakookheli. The revenue, including the customs, trades, and weavers and tax on herds amounts to 41,000 rupees, and the fighting men of the whole tappa amount to 1200. The people of Bazee are all Musselmans of the Sunnee creed.

The tappa of Samalzye is inhabited by Sheali Musselmans, and is farmed by Sher Alee Khan, Izzatkheli, father-in-law of Sirdar Sultan Mahommed Khan. The dependencies of Samalzye are as follow:—

Mouza Alezye, under Ghulam Khan, is situated in a valley, having to the north, across the hills, the tribe of Sepa, outside the fort are two hundred houses. The shrine of Myan Fatteh Shah is situated in the suburb of Koh. The fighting men amount to 80.

Ustarzye-i-Paieen contains a mud fort. It has two gates, one to the east, the other to the west, and two hundred houses. The fighting men amount to 100 Ustarzye-i-Bala under Meerza, and contains a mud fort with two gates both to the north. There are one hundred and fifty houses, and the same number of fighting men.

Kachee Bala-o-Paieen, under Muazim Sher, is divided into four mouzas, each containing a mud fort, and two large towers, and from four hundred to five hundred houses, as well as vineyards and pomegranate gardens. The fighting men amount to 200.

Marye Bala-o-Paieen, under Jafar Alee, is situated on an eminence, having two hundred houses below, and 150 fighting men. This place borders on the Teera Pass, at the bottom of which are seven water-mills. The revenue of the whole tappa amounts to 22,00,

rupees nominally, the whole sum being seldom realized. The people of Samalzye are noted for bravery; the cultivation depends chiefly on the Kuram river.

The tappa of Meeranzye is a dependency of Hangoo, as far as Tal-Meeranzye. i-Bulandkhel. From Cohaut I proceeded to Ustarzye and thence to Marye, where I took up my quarters in a mosque, where a man presented himself, saying, he had two wives, a grown-up son, and a daughter-in-law; that he had committed some gold and rupees Theft. to the keeping of his senior wife, which had been lost, and requested me, as I was a fakeer, to ascertain who had taken it. I accompanied him home, where I found all the members of the family disputing and interchanging high words. I enquired of the master of the house which wife was youngest. He replied—the one I have just married, and the management of the house is entirely in the hands of the boy's mother. I asked him which he liked best. He replied one has got old, and the other is pretty and young, what more need I say.

I requested that they should all assemble. On their presenting Conjuring. themselves, I wrote all their names on separate slips of paper, and folded them up separately, filling all with ashes; but one, which I filled with detonating powder. I then gave a stone into the hands of the Malik, and ordered him to strike each paper, as I gave the signal during my incantations. On the explosion from one of the papers ensuing, I pretended to read the name of the thief, allowing the party the night to consider, before being exposed. Towards night-fall, having occasion to go out, I was followed by the senior wife, who taking hold of my skirt, confessed she was the thief; having Discovery. been driven to the act, in the hope of attaching suspicion to her rival, and thus, estranging her husband's affections from her. She promised to return the articles, provided I would not expose her, and would do something with her husband, so as to induce him to visit Stipulation. her once a week. I promised this, and the articles were brought to me at midnight in the mosque. In the morning I sent for the husband, and presenting him with the missing property, enjoined him to treat his first wife with greater consideration. He after some disputation, agreed to visit her once a month.

My digression from Cohaut to Peshawur, my return to that place, and my journey to Teera, occupied eighteen days.

1st Mohurrum.—Proceeded seven kos to Sultanzye in the district of Teera, passing the Barah river and the Koh-i-Boland pass, which is difficult even for footmen. The sides of the hill are covered with jungle, and the cultivation is carried on with the water of the Barah river. There are three forts here, two belong to Band Alee Khan, Sultanzye Orakzye. The inhabitants are partly Sunnee, and partly Sheah Musselmans. The other chief is Alam Khan, Orakzye. The forts have all four bastions fitted to bear artillery. The fort in which Alam Khan resides is separate, and has a *mehman khanna* above the gateway, a small gun, without shot or ammunition of any description, is also near the entrance. There are twenty-two Shaheens mounted on the bastions. The fighting men amount to Alam Khan. six hundred who are independent. Alam Khan being in the employ of Sirdar Dost Mahommed Khan, generally spends his time in Basoul, Jelalabad, and Cabool. He has eighty horses of his own, and receives 24,000 rupees pay. He has a jaghire in Basoul. In the times of the former Sadozye kings, the Orakzyes received from 22,000 to 25,000 rupees a-year. They are friends with the people of Jamrood, Barakee, and Alam Guzeer, and enemies of the Abdul Azeekhels and Maneekhels. To the east is the Bangash road, to the west Usmankhels and Istareekhels, to the north hills and the road to Peshawur, and to the south hills, and beyond them, the Hurbuz and Maneekhel.

2nd Mohurrum.—Proceeded seven kos to Abdul Azeekhel. The Abdul Azeekhel. cultivation chiefly depends on the rain. There are five hundred houses. The headman who is also a holy man, is Maddat Shah. Meer Maddat Shah, he is a *peer*, or spiritual chief of the Sheahs of this neighbourhood.

The inhabitants have separate forts, and muster 450 fighting men, a lawless set. They are friends of the Maneekhels, and enemies of Mastee and Shekhan.

This year, which was one of scarcity, wheat sold at four and half *akahs* the rupee, and juwar at five or six *akahs* [one *akahs*, seven Peshawur seers.]

The inhabitants carry their hatred of the rival sects of Sunnees Sheeahs. to an inveterate extent, and during the ten first days of the Mohurrum, their penances are very severe. They fast the



days, and hold their meetings in the house of Maddat Shah, who has the most unbounded influence over his disciples, the Maneekhels and Abdul Azeekhels.

In these districts, apples, grapes, mulberries, walnuts, pears, pomegranates; in short all the Cabool fruits are produced in plenty.

In the hot weather, the situation is peculiarly pleasant. To the east is Garee Rustam Khan, to the west Mastee and Shekhan, Mullakhel and Baramadkhel, to the north hills, and beyond them, the Afreedees and the road to Jelalabad, and to the south the Maneekhels. They have never paid revenue since the time of the Chaghatye kings.

During my stay with Maddat Shah, I saw none of the assumptions Maddat Shah. that the Sunnees give him credit for; but his disciples, certainly, are in some instances, beyond bounds in the homage they pay him. In their prayers, for instance, they ask forgiveness in his name and those of his children and forefathers.

During my stay, my Persian Meerza who was a Sayad, made a Awkward mistake. mistake, which was nearly proving of serious consequence. He one day seated himself on the vacant cot of one of Maddat Shah's sons. I overheard the bye-standers muttering a threat, that if he were not a guest, they would kill him for the insult. I explained, in extenuation, that my companion was a Sayad, as well as my host. "He may be," was the reply, "but for all that, he shan't presume to sit on that cot."

The Bangashees perform the pilgrimage to Meshed. I have often Veneration. met them in Persia, and whenever the name of Maddat Shah is mentioned, if they are seated, they immediately rise, and press the forefinger of their right hand, half closed, first to their lips and then to their foreheads.

Maneekhel is pleasantly situated in a valley. In the summer, this Maneekhel. place enjoys the best climate in all Teera. The cultivation is carried on by spring and river water. The winter here is very severe; but the poor people find plenty of firewood near at hand. There are one or two mills on every canal. There are six hundred houses of stone and mud; and the fighting men amount to 800. They are enemies of the Sunnees of Mastee and Shekhan. The Sheahs of the neighbourhood are said to be descended from a con-Shamal and Karah. verted Hindoo, named Shamal, and the Sunnees of

one, named Karah. To the east are hills, to the west hills, and beyond them Bangash, to the north the Abdul Azeekhels, and to the south hills, and beyond them Bangash.

Baramakkhel is situated on an eminence, in a valley beyond Baramakkhel. Maneekhel. The inhabitants are Sheeahs. The cultivation depends on springs and water from the Teera river. There are one thousand houses of stone and mud, and 600 fighting men. They are friends with the other Sheeahs, and of course enemies of the rival Sunnee tribes. The chief men are Ghulam Khan and Meer Ahmed Khan, Orakzyes. To the east is Karnar, to the west Maneekhel, to the north hills, and to the south Samal.

Usmankhel and Ferozkhel are inhabited entirely by Sunnees. The cultivation depends on the Teera river. Every village has its separate mud fort. There are five hundred and forty seven houses. Usmankhel is to the north-east, and Ferozkhel to the north. There are no regular appointed Maliks. The man who entertains best is chief for the time. The fighting men amount to 4 or 500.

In every village of Teera there is a Hindoo's shop, and the Hindoos of both sexes in this district wear the same clothes as the Musselmans; and therefore cannot be distinguished by a stranger at a glance. The fruits here are very fine in the summer. The inhabitants dress in

Dress. loose trousers, confined at the bottom; and in long shirts, sewn double and treble, reaching to the knee, and sometimes to the ankle. Dark-blue lungees compose their head dress. The women wear rows of silver coins as buttons on their vests.

Beyond Ferozkhel is Kilah-i-Gehrajgal in the Afreedee country, situated in a valley, of which the land is of a peculiar red colour, and through which the Barah river runs as well as the road to Basoul and Cabool. I was directed by Major Leech to visit a place called Rajgurh. I never heard of any place nearer approaching the name than this. To the east of Ferozkhel are the Zakhakhel Afreedees, to the west the Masteekhels, Shekhans and Mullakhels, to the north the road to Cabool, and to the south the Abdul Azeekhel. The inhabitants are independent. On arriving near Usman-khel, I met a young woman proceeding to draw water; she enquired who I was, and received for answer from one of my men, that I was a fakeer of a saintly character. She invited

Incident.

me to her house, where she presented me with a chillum, some raisins, and jalghozas, paying me attentions that did not seem to excite the jealousy of her husband; and at nightfall, brought a cot for me to sleep on. The unblushing overtures made by this woman in the course of the evening, and many other incidents on my journey, led me to

State of Morals. form a very poor opinion of the simplicity of the country people of Affghanistan. They seem far to surpass the towns-people in the looseness of their morals.

Ustarzye borders on the Khyber and Basoul. The inhabitants have all separate forts, amounting to twenty. There were formerly three thousand houses. At present there are even more, some at the fort, and some at the top of the table land. The cultivation depends partly on the rain, and partly on spring water. There is no fixed Malik. He who entertains most is the best man, and possesses greatest influence. The fighting men amount to upwards of 3,000. They are very independent, and great robbers. They are of the tribe of Orakzye. They are friends of the Afreedees, and enemies of the Abdul Azeekhels and Maneekhels. They are, as might be expected, Sunnee Musselmans. To the east are the hills and the road to Peshawur, to the north are the hills, and to the south are the Abdul Azeekhels.

Before my arrival at Ustarzye, my fame as a fakeer had preceded me. Immediately after my arrival a man waited on me, and represented that he had a very beautiful daughter, who regularly every Sunday and Wednesday went mad, and sometimes struck herself, and

Another devil cast out. sometimes her relations; that she was engaged to be married, and her intended had become averse to the match ever since the commencement of these fits; intreating me to cure her. I became at a loss what to do, and what puzzled me more, was, that the day of my arrival was a Saturday and the next day the girl, as was her wont, had the mad fits; and I was taken to the house and found her stretched at full length, heaping abuse on all her relations. I soon discovered that she was shamming, and commenced operations accordingly. I drew a line on the ground around her, and wrapped some brimstone in a rag and gave it to my servant, while I covered my own head and commenced incantations; telling the servant to light the rag, and apply it to her nostrils; while I ordered the father to hold her firmly until I told him to release her, warning him, that if he did

so without my telling him, the devil, of whom his daughter was possessed, would kill her. On the burning brimstone being applied, she begged to be released in a sensible tone of voice. This I would not allow, until she spoke in the person of the possessing devil, and promised he never would return. I explained that it was necessary to give a written charm to prevent the return of the devil, and explained to the mother, that I wished to see the girl in private. On her being brought, I questioned her before the mother about the devil; she replied, that as long as the fakeer (myself) remained, he (the devil) would not possess her; but immediately on his (my) departure, he (the devil) would destroy her. After this, the mother motioned her daughter to depart, who refused, saying she would stay and wait on me. When we were

Disclosure. alone, the girl told me the truth; which was, that she had a lover, and played these tricks that the match with the young man to whom she was engaged, might be broken off. I promised to aid her, and told her to get her betrothed to visit me. In the morning the young man came and asked me to do all I could to cure his intended of her fits. I explained that if she got cured, the devil would attack him instead; and proved it by my old apparatus of the bowl of dirty water and the steel spring, which ejected his name as the fated one. He was much frightened, and entreated me to point out a remedy. This I did by assuring him, he could never marry the "possessed," and live; and that therefore, he had much better take the other sister, who was also marriageable. This, after sometime was, with my assistance, arranged. The successful lover, who had hitherto remained in the back ground, now visited me, bringing with him some cooked dishes. He afterwards accompanied me one stage as a guide, and I left Ustarzye with the satisfaction of having caused the happiness of two beings at no one's expense.

The cultivation of the Masteekhels depends on spring water. Their habitations are partly below, and partly on a rising Masteekhels. ground. They have all separate forts, amounting to about twenty. The headman is Jemadar Misree. They amount to three thousand fighting men, and are friends of the Shekhans and Mullakhels, and enemies of Abdul Azeekhels: and they are always armed night and day accordingly. This tribe and that of Shekhan Hospitality. are noted throughout Teera for their hospitality. To

whole ten the east are the Abdul Azeekhels and Maneekhels, to the west the Aleekhels, Sherzyes and Mamoozyes, and to the south the hills.

Shekhan extends to Naryab. There is no headman. The fighting Shekhan. men amount to three thousand. To the east are Abdul Azeekhels, and to the west the Mullakhels and Alee Sherzyes. The Ismailzyes. cultivation of the Ismailzyes depends on the Samal canal, which runs towards Cohaut. It is divided properly into Akhel Rabiakhel and Ismailzyes. The headman is Sirdar Sayad Shah. They are friends of the Aleekhels. The fighting men amount to 1,000. To the east are the Alee Sherzyes, to the west Shekhan, to the north the Afreedees, and to the south the Tortareens.

The Alee Sherzyes have six mouzas, and seven forts. The cultivation chiefly depends on the rain. The headman is Mazulla Khan. The fighting men amount to 3,000. To the east are the Mamoozyes, to the west the Shekhans and Masteekhels, to the south Bangash, and to the north the Afreedees.

The cultivation of the Mullakhels depends chiefly on the rain. There are six mouzas dependent. The habitations are in Mullakhels. a valley. The chief man is Mulla Ahmed Orakzye. The fighting men amount to 700. To the east are the Aleekhels, to the west Abdul Azeekhels, to the north the Shekhans, and to the south Bangash.

The cultivation of the Mamoozyes depends on the Barah river. Mamoozyes. There are thirty or forty forts under Mazulla Orakzye. The fighting men amount to 400. To the east is Chamkanee, to the west Masteekhels and Shekhans, and to the north the Afreedees.

The Chamkanee Orakzyes inhabit the base of the Seefed-koh Chamkanee. range. Their cultivation depends on the rain. The fighting men amount to 3,500. The headmen are Noor Alee and Arsalla. They have internal feuds. To the east is Teera, to the west are Kuram and Bangash and the Shrine of Lot, to the north Suefd-koh, and to the south the hills. I remained in Teera eleven days.

The district of Kuzeer is in a valley beyond the Maneekhel Pass, Kuzeer. the descent into which is very difficult. There is a covered tank of rain water near the top. The Pass is covered with

trees. The inhabitants are called Bar Mahommedkhels. There are two forts on the plain, and three on the hill. The cultivation depends partly on springs, and partly on the rain. The people live in caves.

Caves. The headman is Meer Ahmed Khan. The number of fighting men amount to 400. To the east is Bangash, to the west the Maneekhel Pass, to the north the hills, and to the south hills, and beyond them the Bengash country. The inhabitants are partly Sunnees and partly Sheahs. The latter are disciples of Meer Ahmed Shah, who resides among the Abdulla Azeekhels, and Myan Noor Shah, who resides at Maree, a dependency of Cohaut.

Spiritual Chief.

On arriving at Kuzeer I put up in the mosque, when an old man presented himself, and entreated me to pay a visit to his son, who was ill at home with dysentery. I assented, and found the young man much reduced, and a young interesting wife mourning over him. I administered some warm tea, with a little ginger to him, which seemed for a time, much to the delight of his friends, to revive him. His father accompanied me a stage as a guide.

Buroonee is situated at the foot of a hill; the inhabitants are partly Afreedees, partly Orakzyes. The Afreedees border Buroonee. on the Khyber. The cultivation depends on the rains. There is no headman. They are friends of the Ferozkhels. To the east are the Kukeekhels and Rabiakhel Afreedees, to the west the Afreedees, to the south the Ustareekhels, and Caree-i-Alam Khan Orakzyes. They are independent.

13th Mohurram.—Proceeded to Hangoo, known as the tappa of Hungoo. Meeranzye. The cultivation depends partly on wells, partly on running water. There are one hundred and forty houses, fifteen Hindoo shops, seven dyers and blacksmiths, and twenty-eight lungee weavers. Azeezulla Khan is hereditary chief of the Meeranzye tappa, and the authority of his ancestors extended to Naryab Tal and Bulandkhel; but he is now a fugitive from the tyranny of Sultan Mahommed Khan.

At present the chief men are Sadulla and Samad Bangashees. Hangoo is farmed by Naib Darbarza Bangashee, a resident of Togh, for 30,000 rupees. Out of this he draws his own pay, which amounts to 5,000 rupees. He has 60 horse and 730 foot; and he sometimes

has as many as 110 horse for the revenue collection. Hangoo is divided into the following mouzas: Raisan Ibrahimzye, Poodokhel, Bazar, Malkhoora, Ragho, Garee Saiyadha, Togh, Bandah-i-Shekhan, Bhookhel, Baukhounee, Bagdoo &c. &c. The inhabitants of Hangoo are nearly all Sheeahs. There are six springs in the tappa of Meerazye; three to the north, at the foot of a hill near the shrine of Meer Shah Tootee and Meer Shah Umar, and three to the south. In former times, the number of fighting men amounted to 3,000. At present they do not muster 1,000. They are friends of the Khattaks, and enemies of the men of Naryab, Dar Samand, Tal, and Bulandkhel. To the east is the road to Cohaut, to the west the road to Maryab, to the north hills, and beyond them Teera, and to the south the Khattaks.

The Khattaks, Bangashees, and men of Teera, all wear grass sandals, and the women go bare-footed. Hajrab yahood (lapis judaicus) and shadanij adasee (blood stone) are found here, near the shrine of Meer Shah Tootee. At this place I broke off another match, at the earnest entreaty of one of the parties, a pretty young girl, who declared she would destroy herself if I did not release her from it, and thus her blood would be on my head. In the excess of her gratitude, she tore her silver necklace off, and pressed it on my acceptance; I however would receive nothing but a few roasted fowls.

A nother marriage broken off.

15th Mohurrum.—Proceeded seven kos to Kahee, which was formerly dependent on Hangoo, passing two tanks on the road, and a jungle of “*mazr*” and wild flowers of a yellow colour. The cultivation depends entirely on the rain, and they drink nothing but rain water. There are six hundred houses, and 500 fighting men, under Azeezulla Khan. They are friends of the men of Naryab, &c. and at enmity with the Khattaks. To the east is the road to Hangoo, to the west Naryab, to the north Teera, and to the south the Khattaks. The revenue formerly amounted to 240 rupees.

Sometime after my arrival at the mosque a man presented himself, took hold of the skirts of my garment, and explained, that he was a “*shikaree*,” (slang for a thief,) and that he had been unsuccessful for sometime past in getting “*shikar*” (game,) and now wanted my prayers for his better luck. I complied

Pray for a Thief.

with his request, covered my head, and muttered something. He immediately started to put my prayers to the test that very night. He was unsuccessful, and it came to my ears that he had declared I was a cheat, and would strip me on my next stage.

I started the next morning, and after proceeding some distance, saw  
 Rencounter. that my friend of the last evening had kept his promise, and confronted me with three fellow-thieves. I lost no time, on his coming in sight, in placing some detonating powder on a stone; on his commencing to abuse me as a cheat, I rested my walking stick, in rising, on the powder, saying at the same time, "Whatever is done, is done by the will of God." The usual explosion ensued, and the thief, in repentance, threw himself at my feet.

16th Mohurrum.—Proceeded five kos to Naryab, (known as Badah-  
 Maryab. khel), the cultivation of which depends on a running stream that comes from the direction of Teera. There are seven hundred houses, and sixty shops. There is here an extensive  
 Mules. sale of horses and mules. The Wuzeeree unbeaten iron is sold for twenty-eight seers the rupee. It is beaten here and sold at twelve and fourteen seers. There is a mud fort, having two gates. A canal runs through the bazar. Near the gates is the  
 Shrine. shrine of a descendant of Myan Tahir Shah. The headmen are Aner Khan and Nijabat, Badakhel Bangashees. The fighting men amount to 500. They are friends of the Habiakhels, and enemies of the men of Zeemukht. To the east is Kahee, to the west Dar Samand, to the north Teera, and to the south the Khattaks. The revenue, if enforced, amounts to from 900 to 2,000 rupees.

17th Mohurrum.—Proceeded five kos by night to Dar Samand,  
 Dar Samand. having procured the company of two Hindoos, who were furnished with two guards, (Badrakas.) The Persian writer, who used always to lag behind; on this stage, as there was  
 Anecdote of Meerza. danger, to my astonishment I observed running a-head, with his shoes in his hands; and only overtook him at the next stage. On inquiring the reason of his unusual activity, his reply was: "Fear is the brother of Death." There are two or three mud forts in Dar Samand. There are two springs, one called Neelee to the north, and the other Gulab to the south, which springs from the Gulab hills. It is also called Regee. There are seven hundred



houses. The headmen are Bakar and Turabaz. The number of fighting men amount to 700. They are friends of the Zeemukhts or Torttareens, and enemies of the Khattaks. To the east is Naryab, to the west Tal, to the north the hills, and to the south the Khattaks.

At this place, the Persian Meerza was nearly getting into a scrape, from which I was only just in time to extricate him; Indiscretion of Meerza. having first recourse to admonishing him harshly. He had accepted the invitation of a mistress of one of the houses in the village to supper, after having written out for her a charm she requested, and I found him making himself quite at home in her house, and the intimacy gradually growing to an indiscreet extent.

19th Mohurruum.—Proceeded six kos to Tal, known also as Badakhel, which contains a square mud fort, having one of the bastions full to bear artillery. The cultivation partly depends on the Kuram river, which takes its rise in the Sufedkoh mountains, and passes through Kuram, Tal, Cohaut, Kuram river. Bannoo, and Murwat; and partly on a spring to the north, called Sangroyah. There are seven hundred houses of Muselmans, thirty five Hindoos, and twelve shops. There is a great horse and mule market here. There is a very large cave in the Zeemukht hill, which has never been explored, which has a draught of air always issuing from it, which makes a noise like the turning of mill-stones. Near this, there is also an impression on the rock of the palm of a hand, of which there are so many known in Khorasan as “Panjah-i-Shah,” and looked upon as the impression of the hand of Hazrat Aly. There are flint rocks near, Panjah-i-Shah. on which are two shrines, one of Peer Shah, the other of Peer Umar Shah; also an antimony mine of inferior quality, Antimony. which however is exported to Multan. There are two Hindoo merchants at Tal. Better flint is to be procured, of a black colour, at a kos further off; which however, is difficult of access on account of the Wuzeeree robbers. The headmen of Tal are Bha-hawadeen and Duranee, Badakhel Bangashees. The fighting men amount to 600. They are friends of the men of Naryab, Kahee, and Kuram, and enemies of the Khattaks and Zeemukhts. To the east is the road to Dar Samand, to the west the road to Kuram, to the north the hills, and to the south the Kuram river. The inhabitants are

almost independent. They formerly paid to Sultan Mahommed Khan 240 rupees a-year. When a force is sent (which seldom is) 2,000 rupees is collected at once.

20th Mohurram.—Proceeded six kos, passing the Kuram river to Bulandkhel, which contains a mud fort, with two bastions and two gates. The inhabitants are Badakhel Bangashees. The cultivation depends on the Kuram river. The houses amount to three hundred and twenty-five; and the Hindoo shops to sixty. There are seven dealers in mules, horses, and sheep. The amount of fighting men is 300. They are friends of the Wuzerees and enemies of the Khatkhs, and people of Tal and Khost. To the east is the road to Khost and Murwat, to the west the road to the Wazerees and Kuram, and to the north the hills. They do not pay revenue unless it is enforced by troops. In the neighbouring hills, are villages of the Wazerees.

22nd Mohurram.—Proceeded nine kos to Zeemukht, which is the name of a tribe of Tortareens, that emigrated from Herat, and colonized here. The fighting men formerly amounted to 3,000; they have increased. The cultivation depends partly on the rain, and partly on springs. There are 20 or 30 forts in the valley, belonging to the Zeemukhts, who extend to the border of Teera. They are friends of the Toorees, and enemies of the men of Mules. Tal and Bulandkhel. Mules are plentifully produced in this country. To the east is the road to Naryab, to the west the road to Kuram, to the north Teera, and to the south the town of Bulyameen. The road abounds with jungle. At four kos I passed a stream of water.

23rd Mohurram.—Proceeded to Bulyameen, which is the boundary of Bangash-i-Bala and Bangash-i-Paieen. The latter extending from Cohaut to Tal. The villages of Makhzye and Bagzye are included in Bulyameen. There are in all nineteen forts. The cultivation depends on a stream from the Sufed-koh. There are one thousand and nine hundred houses, and a bazar containing twenty weavers of dark lungees and karbas. There are many mule dealers. The headman is a fakeer, who in the times of the kings, enjoyed a salary of 12,000 rupees a-year. The fighting men amount to 1,500. They are friends of the Toorees, and enemies of the men of Khost. To the east is Bulandkhel, to the west the road to Cabool, to the north Kuram,

and to the south Khost and the Wuzeerees. The revenue is never collected but by detachments of troops.

*Detail of the villages of Kuram, known as Bangash-i-Bala.*

Sadah contains one hundred houses, under Adeen, Abdulla, Aly Sher, Sadah. and Nazar. The inhabitants are partly Sunnees and partly Sheeahs. The fighting men amount to 100. They are friends of the Toorees.

Balkh Shal contains a mud fort, and eighty houses, under Mahomed and Kuram Sher. The fighting men amount to 80.

Ibrahimzye, the jaghire of Sayad Ahmed, the son of Maddat Shah, Ibrahimzye. contains one hundred and twenty houses. The headman is Meer Hasan. The fighting men amount to 300. The jaghire was presented by Sirdar Dost Mahommed Khan, and consists of one-fifth of the produce.

Shaknee contains a fort on an eminence, and thirty houses under Dabood. The fighting men amount to 20.

Bat contains two mud forts and forty houses, under Chet, who can muster 35 fighting men.

Khela contains eighty houses, under Kasim, who can muster 55 men.

Alladad contains eighty houses, under Alladad and Allaiyar, who musters 55 followers.

Yakoobe contains a mud fort and sixty houses, under Noor Aly, who musters 44 followers.

Moora-i-Sayadba contains thirty houses, under Shah Abdul Hassan, who musters 25 followers.

Ameelkot contains eighty houses, under Meer Alee Khan, who musters 70 followers.

Kuter contains seventy houses, under Ghazee, a Tooree, who musters 65 followers.

Sultan contains two forts and three hundred and fifty houses, under Khusro and Ghulam, cousins, who are at enmity. The fighting men amount to 300.

Agrá contains two forts and eighty houses, under Meer Kasam, who musters 35 followers.

Shiblan contains one fort and one hundred houses on the banks of the Kuram river, under Karam Sher, who musters 84 followers.

Alam Sher contains two mud forts, and two hundred houses, under  
 Alam Sher. Jahangeer Khan, who is chief of all the Toorees, and  
 Bangash-i-Bala. The number of fighting men amounts,  
 to 150. To the west is Shilozan, to the east the road to Zeemukht,  
 to the north hills and the valley of Kirman, which contains the shrine  
 of Fakhr-i-Alam, the father of Maddat Shah, the spiritual chief of the  
 Bangashees and Toorees, beyond which is the Sufed-koh range, and  
 to the south Kuram.

Ahmedzye contains ninety-four houses, under Zamasp and Meerza  
 Gul, who musters 80 followers.

Bilandeekhel contains one fort and two hundred and twenty houses,  
 under Fattah Khan, who musters 200 followers.

Aza Khel contains forty-five houses, under Neyamat Khan, who  
 musters 35 followers.

Tahda contains one hundred and twenty houses, under Jahan Khan,  
 who musters 100 followers.

Kamshal contains two forts and two hundred and fifty houses,  
 under Shah Hasan, Gul Hasan, and Meer Hasan, who musters 260  
 followers.

Pishra contains forty houses, under Gul Mahommed, who musters  
 35 followers.

Meerza Khan contains one fort and one hundred houses, under Meer  
 Mahommed, who musters 80 followers.

Fattah Khan contains one hundred houses, under Alam Khan and  
 Nasar Khan, who muster 90 followers.

Kot contain five forts and two hundred houses, under Fattah Khan,  
 who musters 180 followers.

Sheraka contains two forts, under Buzurg, who musters 100 fol-  
 lowers.

Toolak contains one fort and fifty-five houses on an eminence over  
 the river, under Khoja Baz, who musters 60 followers.

Kharlachee contains one fort and one hundred and five houses, under  
 Shaheen, who musters 120 followers.

Lalmee contains one hundred and forty houses round a fort, under  
 Guldad, who musters 150 followers.

Aleezye contains three hundred houses, under Habeebulla Bangashee,  
 who musters 280 followers.

Kirman is situated partly in, and partly out of a valley, and consists of twelve or more forts, under Futulla and Meer, who muster from 900 to 1000 followers.

Zeeran contains seven or eight forts, each fort having thirty or forty houses around it, under Mahommed Meerza and Hyder Alee, who musters 607 followers.

Koh Badshahkhel contains two small forts. The number of fighting men amounts to 140.

Ghundee contains one fort, and three or four other small ones are dependent on it, and two hundred and fifty houses, under Ganjan Khan, who musters 200 followers.

Ahmedkhel contains one fort, and turns out 120 fighting men.

Shilozan is a beautiful district, containing twelve small forts and ten streams, that all have their rise in the Sufed-koh, and fertilize the whole of Kuram. Silk is produced here of a very fine quality, and all the inhabitants engage in the produce. The headman is Meerza Hasan, whose sister is the wife of Dost Mahommed Khan, and mother of Mahommed Afzal Khan. The fighting men amount to 800, who are all Bangashees.

Paiwar contains six or seven forts, each fort having one hundred houses, under Noorak and Moosa, who muster 140 followers. The men of this place act as guides and guards to the Bangashee and Tooree pilgrims, who, as Sheeahs, could never otherwise pass the country of their inveterate enemies, the Jajees, who are Sunnees. These men take them by unfrequented hill roads to Logur, and receive from each pilgrim in return, 2 or 3 rupees.

---

*Notice of Bangash-i-Bala, known as Kuram.*

From the entrance of the Chamkane valley to Bulyameen, is geographically included in Bangash-i-Bala, and the Toorees have the territory.

The whole of Bangash-i-Bala is divided into twenty-nine miskalees, according to Meerza Hasan, partly as follow :—

The Darra-i-Chamkanees is situated in the Sufed-koh range. The fighting men amount to upwards of 3,000. The headmen are Bao Khan and Arsalla. It is reckoned,

	...	...	3	Miskalees.
Deda,	...	...	1½	ditto.
Kirman,	...	..	2	ditto.
Bulyameen, Maghzye, and Bagzye,	...	...	4	ditto.
Jajees, known as Zarakhel,	...	...	1½	ditto.
Ghundeekhel,	..	...	1½	ditto.
Aleezye,	...	..	1½	ditto.
Ibrahimzye,	...	..	½	ditto.
Ahmedzye,	...	...	½	ditto.
Balkh, Kamshal, and Nahda,	..	...	1	ditto.

The other details I did not succeed in procuring. The district is under Sirdar Dost Mahommed Khan. Its revenue amounts to about 52,000 rupees, of this the Dastar tax amount to 12,000 rupees. In former times, the Toorees, who have seized on Bangash, alone used to furnish 3000 foot and 500 horse, independent of Bangash-i-Bala;

Contingent. at present, including the latter, they might collect 5,000 foot and 800 horse. They are enemies of the Jajees. They have much property, and most of them trade.

The coarse rice of Kuram is famous, and the inhabitants chiefly live on it.

The inhabitants all dress in dark blue, and the only ornaments worn by the women are rows of small coins called Abbasee Kareem Khanees, sewn on their vests in rows. The trousers of the men are made tight below the knee. Their arms consist of selawas and long matchlocks.

The price of wheat, in plentiful seasons, varies from fifteen to twenty *thattees* (one *thattee* three Peshawur seers) the rupee, and in seasons of scarcity seven or eight *thattees*. The Hindoos of Tooree are only to be distinguished by their language, from the Mahommedans. The people of Bangash-i-Bala burn wood instead of oil.

On arriving at Paiwar, I put up as usual in the mosque, where a man presented himself, and requested me, as a fakeer, to  
Prediction. tell him, whether the object he had in view would be accomplished or not. I drew some unmeaning lines on the ground,

and told him to count them by fours, telling him that if one remained, his project would succeed; if two, it was doubtful; and if three, it would fail. He counted, and much to his delight, one remained. Promising if my prediction came true, he would make me a present of a mule, he took his leave. Some hours afterwards, I heard that his project had actually succeeded; which I learnt, to my astonishment,

Fulfilment. was no less a one than eloping with another man's wife.

I never however saw him or the mule again.

The people of Paiwar are enemies of the Jajees, and friends of the people of Shilozan. To the west are the Jajees, to the east Shilozan, to the north Sufed-koh, and to the south Chamkanee. On starting from Paiwar for the Jajee country, as the Mangal robbers infested the road, and as there were Kuram and Sheeah merchants in the caffila, guards were procured to pass us over the Paiwar Pass to Kamshal. On approaching the Pass, twenty Mangal robbers joined the caffila;

Robbers. and Meerza Safdar Shah entered into conversation with

them, and gave one a lungee, in which he had tied up some walnuts and raisins, to carry for him. On crossing the Pass, these gentlemen walked off, taking the Meerza's property with them, who forthwith vowed never again to make acquaintance on the high road.

29th Mohurram.—Proceeded from Paiwar seven kos to Maskanee, which is in the Mangal territory; passing the Paiwar Maskanee. Pass, which abounds with *archah* trees.

30th Mohurram.—Proceeded seven kos from Maskanee to Sufed-koh, where I was stopt by wind and snow, at a fort in a valley, called Paryan, whence three valleys separate; one leading to Jajee, the second to Mangal, and the third to Logur. A short time after putting up in the mosque, a good looking young lad made his appearance, and gave me the usual salutation which I acknowledged, then approaching he took my hand, and with a sigh, said he wished to renounce the world and turn fakeer too. On enquiry, I found he had no relations but a widowed mother. I in vain tried to dissuade him, by pointing out the hardships and dangers of a fakeer's life. He insisted on remaining with me, and occupying himself in attending to my wants. When my companions had all fallen asleep, to my horror I found the young scoundrel was a hypocrite, and something much worse, from the

disgusting nature of the overtures he took that opportunity of making. The Mangals amount to 3,000, who are all independent.

—————

*Notice of the Jajee country where I arrived on the 1st Safar.*

The Ahmedkhels are located in a valley, and have five forts, two Ahmedkhels. hundred houses, and 400 fighting men.

The Tarlakees are also located in a valley, and have three forts belonging, one to Malik Gul Khan, and the other two to his tribe. The forts contain eighty houses, and the number of fighting men amounts to 120.

The Meerankhels have six forts containing thirty houses each, one Meerankhels. belonging to Alee Gul, another to Meerjane, two to Sahib Khan, and two to Malik Madak. The number of fighting men amounts to 300.

Alishing is situated also in a valley, and contains twenty houses, and 40 fighting men.

Batela consists of two forts, containing forty houses, and 100 fighting men.

The Loonees have eight forts, containing two hundred houses, and Loonees. 400 fighting men.

The Ameenkhels have two forts situated on the high road, containing sixty houses, and 130 fighting men.

Ahmadkhel consists of one fort, forty houses, and 100 fighting men.

The valley of Dreplara contains two forts, one hundred and twenty houses, and 400 fighting men.

The Aleekhels have five forts, one belonging to Khanee, one to Aleekhels. Abdulla, two to Khanzadah, and one to their tribe. There are altogether two hundred houses, and the number of fighting men amounts to 600.

The Mangals and Jadrans are also situated in a valley, having to Mangals and Jadrans. the east Khost and to the west Gurdez. They have in all 250 forts and 500 black tents. They are perfectly independent, and pay revenue to no one. A great quantity of the hilly lands are laid out in terraces and cultivated.

The Hasankhels have three large and four small forts, containing Hasankhels. three hundred houses. The number of fighting men is 1,000. There are many gardens here.



Kochee consists of three forts, containing one hundred and fifty houses, and numerous gardens, and 400 fighting men.

The fort of Shah Mahommed contains fifty houses, and 200 fighting men.

The fort of Sarwaneekhel contains fifty houses, and 100 fighting men. The apricot gardens are numerous.

The fort of Malik Myandad, and another of the tribe, contains thirty houses, and 100 fighting men. There is continually rain at this place.

The fort of Saiyadee contains eighty houses, and 300 fighting men.

---

*Description of the road from Jajee to Khushee, (where I arrived on the 2nd Safair.) in the district of Logur.*

Beyond Jajee is the narrow valley of Hazardarakht, which is a complete jungle of *archah* and *sanobar* trees. Beyond this is the valley of Dreplara, which is six kos long.

Thence is the ascent of Shutar garden, where there is good pasturage. There is a mine here of a light-green-coloured stone, which is very heavy.

Beyond the Kotal or Pass, are Ghiljies and Ahmedzyes, who are dependent on Logur, as far as Khushee.

Khushee, where I arrived on the 2nd Safar, is a valley having four forts, containing two hundred houses, numerous gardens, and 50 *kulbas* of cultivated land. The number of fighting men is five hundred. There are two shrines; one known as Khoja

Punjah. Hasan, and the other as Khoja Khidr, where there is a Panjah. This place is a jaghire of Nawab Jabar Khan.

Zarghoon Shahr, which I reached on the 3rd Safar, is situated on a plain having small forts on the skirts of the hills.

Zarghoon Shahr. There is a shrine of Khoja Sadr-i-Auliya. The inhabitants are partly Afghans and partly Logurees, (Lahogardees). There are one hundred houses, three karezes, and three gardens. The fighting men amount to 420.

From Cohaut to Cabool, via Hangoo, Dar Samand, Tal, Naryab, Gun road. Kuram, Paiwar, Jajee, and Khushee, there is a gun road.

On arriving at Cabool, which I did on the 4th Safar, I received Arrival at Cabool. from Captain Burnes 20 rupees for travelling expences; remained three days and setting out, joined my employer at Completion of Tour. Candahar, on the 15th Safar.

*Proceedings of the Asiatic Society.**(Wednesday Evening, 5th July 1843.)*

The regular monthly meeting was held on Wednesday evening the 5th July, and by invitation from the Honorable the President, the Society assembled at Government House, its own premises being under repair.

The Honorable the President was in the chair.

J. W. FULTON, Esq. Barrister at Law, was ballotted for and declared duly elected; the usual communication was ordered to be made to him.

The following Books presented and purchased were on the table:—

*Books received for the Meeting of the Asiatic Society, on the 5th July, 1843.*

The Calcutta Christian Observer, July 1843. New Series, vol. iv. No. 43. Presented by the Editor.

The Oriental Christian Spectator. Bombay, June 1843, vol. iv. No. 6. Second Series. Presented by the Editor.

Jameson's Edinburgh New Philosophical Journal. Edinburgh, 1842, vol. xxxii. No. 63. (Purchased to complete the vols.)

Proceedings of the Geological Society of London, vol. iii. part ii. Nos. 89 and 90. Presented by the Society.

Journal des Savants, Octobre, 1842, Paris. Presented.

The Calcutta Literary Gleaner, July 1843, vol. ii. No. 5. Presented by the Editor.

The Annals and Magazine of Natural History, February and May. London 1843, vol. ii. Nos. 68 and 71. Purchased.

Yarrell's History of British Birds. London 1842, parts 34, 35, 36.

Bellefond's Memoire sur le Lac Moeris, publié par la Société Egyptienne. Alexandrie, 1843. Presented by C. B. Greenlaw, Esq. on the part of A. S. Walne, Esq. of the Egyptian Society of Cairo.

Niebuhr's History of Rome. London, 1842, vol. iii. Purchased.

Antiquitates Americanæ. Edidit Societas Regia Antiquarium Septentrionalium. Studio et Opera C. C. Rafn. Hafniæ, 1837.

Chinese Drawing of the Porcelain Tower at Nankin, with description. Presented by J. McCann, Esq.

History of Hyder Naik, Nuwab of the Carnatic, published by the Oriental Translation Society, as translated from an Original MS. of Meer Hussun Ali Khan Krinnani, by Col. W. Miles. From the Society.

The Secretary reported as follows:—

That the books sanctioned to be sent to Mr. König, bookseller of Bonn, in exchange for the publications forwarded by him, were in course of shipment.

That the collected amount of the subscriptions for the Kit-Cat Portraits of the Honorable Sir Edward Ryan, and the Honorable H. T. Prinsep, Esq. stood as follows:—

Sir Edward Ryan's, ... .. 908 Rupees.

Hon'ble H. T. Prinsep's, ... .. 1,051 ditto.

It was resolved, that the following gentlemen be requested to form a London Committee for the fulfilments of the Subscribers' wishes :—

*For Sir Edward Ryan's Portrait :—*

The Honorable W. W. Bird.\*

Honorable H. T. Prinsep.

W. Prinsep.

*For Mr. Prinsep's Portrait :—*

Honourable W. W. Bird.

Sir Edward Ryan.

W. Prinsep, Esq.

It was brought to the notice of the Society, that it would be highly desirable if a set of the Meteorological Registers from the Bombay Observatory could be procured and regularly supplied in future, and an application to Government for them was sanctioned.

It was also stated, that the Sub-Secretary, Mr. Piddington, had sent to France to Major Troyer, the following list of incomplete French works now in the Library, most of which had been presented by the authors, or by the French Government, and it was hoped Major Troyer would be able to obtain the completion of the sets as they might appear.

*List of the defective Works received from France, for the Library of the Asiatic Society.*

Agassiz, Histoire Naturelle des Poissons d'Eau douce de L'Europe Centrale. Planches, 1er livraison.

Cuvier Histoire Naturelle des Poissons, up to vol. xvi. 8vo.

Quatremere, Histoire des Mongoles de la Perse, traduite en Français, tome 1er, royal fol.

Livres des Rois, traduite en Français, par J. Mohl. tome 1er.

Histoire Generale des Huns, tome i. parties 1er and 2d, et tome ii.

Histoire des Sultans Mamloks de L'Egypte, par M. Quatremere, tome i. parties 1er et 2d.

Chronique D'Abou-Djafar Mohammed Tabari, par L. Dubeaux, tome 1er.

Jacquemont, Voyage dans L'Inde, 13 livraisons.

Ditto ditto Planches. Botanique 1er á 6, 8, á 34, 36, á 50. Poissons, 13, 15.

Reptiles 9, 10, 12. Journal, 1 á 15, 17 á 19, 21.

Agassiz, Recherches sur les Poissons Fossils, livraisons 1, 2, 4, 8 á 13.

Ditto ditto Planches, 13 livraisons.

Vendidad Sadé, par E. Burnouf, Texte Zend, 11 livraisons.

L'Espagne Artistique et Monumentale, par P. de la Escosura, 1 livraison.

Harivansa, traduit par M. A. Langlois, 1er et 3er livraisons.

\* On his arrival in England.

Description de L'Egypte, ou Recueil des Observations et des Recherches, Antiquités, Description, tome 1er.

Ditto ditto.—Antiquites, Memoires, tome 1er.

Ditto ditto.—Planches a ditto, tomes 1er à 5em

Ditto ditto.—Etat Moderne, tomes 1er et 2d.

Ditto ditto.—Planches, id 1er et 2d.

Ditto ditto.—Histoire Naturelle.—Planches, tome 1er et 2d

Ditto ditto.—Preface Historique et Avertissement, 1 vol.

The Secretary moved, that he be authorised to forward to Major Troyer, two complete sets of the Society's Oriental publications, with a view to obtain in return from the French Government or others, to which he might judge it advisable to present them, works published at their expence; one for the Russian, one for the Dutch, and one for the American National Institute. were also mentioned. This proposal was approved of, and the Secretary was authorised to carry it into effect.

Read the following extracts from a letter addressed to the Acting Secretary, Mr. Piddington, by Professor Wilson :—

*East India House, 29th April, 1843.*

MY DEAR SIR,—Your communication respecting the missing copies of the Mahabharata and Journal had been anticipated by an application from the Societé Asiatique, through Capt. Troyer. The books had been lying very quietly in the Library Store, as we knew not what to do with them. A letter from the Secretary to Government, to the Secretary to the Court, had been sent about the time the books were dispatched, but it did not specify for whom the books were intended, beyond the request that they should be sent to Allen and Co. The request was not attended to in the Secretary's department, nor was the letter communicated to the Library, and the books might have been here as long as the house stands, had not the application been made; a little more precision in future in forwarding any thing through the same channel will be expedient, and a private note to me intimating, that such and such books, &c. have been forwarded should always be added. Your memorandum specifies 56 copies of the 4th Vol. and 56 copies of the Index. There were no such things as the latter. There seems to be some mystery about this Index. I have applied to the Society already for copies for our Library, but no notice has been taken of the application, nor have any copies been sent to Allen. He seems to be ill supplied also with the fourth Volume, being obliged to borrow of us, and we have none to spare. It will be desirable to send home a few more copies, and to supply the 20 copies of the Index for this Library, the 56 for France, and an adequate number for Allen.\* I take this opportunity of asking you, if the Society ever received any copies, and what number, of my Vishnu Purana, Sanscrit Grammar and Ariana Antiqua, and if they did receive them, I should be much obliged by being informed how they were disposed of. It is not from any curiosity regarding the Society's distribution that I wish for this information, but to guide my own. I have omitted sending copies to some of my friends in India, under an impression, that they might receive them from the Society, and I may have been mistaken.

H. H. WILSON.

\* See Messrs. Allen's letter, which acknowledges receipt of these in the case per *Ellenborough*.

The following report from the Committee, appointed to conduct the publication of Sir A. Burnes' Drawings, was read and approved of—

*Memorandum relative to the publication of Sir A. Burnes' Drawings.*

The undersigned, who are the remaining members of the Committee appointed in 1841, for the publication of Sir Alexander Burnes' Drawings, beg to bring to the notice of the Honorable the President and the Committee of Papers of the Asiatic Society.

*Original Committee.*

Mr. H. Torrens.  
Dr. Spry.  
Dr. Pearson.  
Charles Huffnagle.  
H. Piddington, Secretary  
to the Committee.

1. That the progress of the work is as follows:—

Drawings completed for publication, . . .	31	0	0
Under examination, and with Messrs. Ballin' people or with the Artist, . . . . .	29	0	0
Being a total of,	60	0	0

2. The Society's outlay to this day has been as follows:—

Paid to Artist, . . . . .	850	0	0
For paper, (Messrs. Rushton and Bazar,) . . . . .	1,012	0	0
To Printers and Colourmen, . . . . .	2,632	0	0
Total, . . . . .	4,494	0	0

3. Each Plate of 575 impressions, (of which 550 coloured and 25 plain,) costs as follows; viz.

Drawing on stone, . . . . .	12	0	0
Printing and colouring, . . . . .	87	0	0
Paper, . . . . .	16	0	0
Co's. Rupees, . . . . .	115	0	0
For 60 Sets is, . . . . .	6,900	0	0

Total Cost 60 Sets ... 6,900  
 ,, 90 ditto, ... 10,350  
 Total Co's Rupees, ... 17,250

4. There remains to complete the publication about, . . . . . 90 0 0  
 If all printed, these will cost at the preceding rates, . . . . . 10,350 0 0

5. But though these plates will form a great ornament to a Volume of Transactions,\* they cannot of course be published without letter-press, which it was proposed should be composed of a digest of Dr. Lord's notes, with such additions as may be farther required by the Zoological Curator to the Society, than whom there is no one more capable of performing the task creditably to himself and the Society. The work thus completed, would (like Buchanan's and Russell's Fishes, or Russell's Serpents,) be of standard reference to the naturalist on the Indus, from Scinde to Attock; a foundation for much more labour of detail by future observers; and the best proof which the Society can afford of its desire to encourage every branch of the Natural Sciences, and to second, with all its means, the measures of Government when directed to these important objects.

\* With Dr. Cantor's Chusan Zoology and Botany, they will make by far the most splendid work on Natural History, which has been published in India.

We beg to suggest, that the Honorable the President and the Committee of Papers direct official intimation to be given to Mr. Blyth, who is already aware of the design, that the plates are in a sufficient state of forwardness to warrant the commencement upon the letter-press, as the prompt preparation of the commentary with Dr. Lord's notes for the plates already finished will enable your Committee to recommend the publication of a 1st part of Burnes' Collection, forming a portion of the volume of the Society's Researches.

The Society will obtain, from the distribution of this splendid work, a means of repaying the offerings of other learned bodies, and of greatly extending its European reputation in the department of Natural History; such being the case, your Committee submit that urgent reasons are shewn for the speedy preparation of the requisite accompaniment to the plates.

Your Committee also beg to note, that two vacancies having occurred by the death and resignation of Members of the Society, it will be expedient to add to their present number.

(Signed) H. TORRENS.  
C. HUFFNAGLE.  
H. PIDDINGTON.

It was stated, that a letter had been addressed to Mr. Blyth, as recommended by the Committee, of which the following is a copy:—

E. BLYTH, ESQ. *Curator Museum Asiatic Society.*

DEAR SIR,—I am desired by the Hon'ble the President and the Committee of Papers to remind you, that there are now 30 of Sir A. Burnes' Drawings of the Zoology of the Indus finished and in our stores, and 30 more, in course of completion, being in the hands of the artists.

1. These 60 plates will cost in round numbers about 7,000 Rs., and there are still 90 more, of which some may be left unpublished; but the whole will, under any circumstances, involve an expenditure of at least Co's. Rs. 15,000.

2. The Society, as you are aware, contemplates making these plates part of the forthcoming volume of their Transactions, and it doubts not, with your known ability, to produce one of which it may be proud, and which the Naturalist can place side by side with those of Russell, Buchanan, and Gould; but while anticipating this, it feels most anxious, that the Letter Press should be forthwith commented upon; for it is aware that it cannot but be ill done if done in haste, and you yourself know how advantageous it is in India, to have full time for corrections and revisions.

3. I am therefore desired to express to you, the especial wish of the Hon'ble the President and the Society, that your part of the work should be taken in hand without delay, as they naturally feel, that in so costly an undertaking, nothing should, if possible, be left to chance or done in haste.

The Society at large would also be much gratified to have your progress in the work mentioned from time to time in your Monthly Report.

H. TORRENS,  
*Secretary and Vice-President Asiatic Society.*

A Portfolio of the finished and coloured Lithographs, with the original Drawings was upon the table, and greatly admired, as being far superior to any thing of the kind hitherto produced in India.

The Secretary stated, that in the month of January, the following letter had been received from Government :—

No. 1256.

To H. PIDDINGTON, Esq. *Officiating Secretary to the Asiatic Society.*  
General Department.

SIR,—I am directed to transmit to you, Extract from a Letter from the Hon'ble the Court of Directors, No. 24 of 1842, dated 26th October, and copy of the letter from the Austrian Ambassador therein referred to, respecting the researches of the late Mr. Csoma DeKörös on the origin of the Hungarians, and to request, that copies of the papers therein alluded to, may be forwarded to this Department, for transmission to His Excellency.

I am, Sir,

Your obedient Servant,

H. V. BAYLEY,

*Deputy Secretary to the Government of Bengal.*

FORT WILLIAM, the 28th December, 1842.

*Extract from Letter, No. 24 of 1842, from the Honorable the Court of Directors in the Public Department, dated the 26th October.*

We enclose as a number in the packet, the copy of a Letter from the Austrian Ambassador, respecting the Researches of the late Mr. Csoma DeKörös on the origin of the Hungarians, and we desire, that the papers requested may be forwarded to us for transmission to His Excellency.

*To the Secretary of the Honorable United East India Company.*

SIR,—My Government, to whom I transmitted the information which the Honorable Court of Directors of the East India Company was so kind as to forward to this Embassy, concerning the death of Mr. Csoma DeKörös, has recently expressed the desire to obtain for the Library of the Transylvanian National Museum, those of the papers (left by the deceased Traveller to the Asiatic Society in Calcutta,) which contain *Researches on the origin of the Hungarians*, and which are therefore of a particular interest for the above-mentioned Museum.

I have therefore the honor to request you may express to the Honorable Court of Directors, how much obliged the Transylvanian Authorities should feel, if by their kind intercession the Asiatic Society at Calcutta, should allow a selection to be made of those papers which so particularly concern Hungary, or copies duly legalized to be taken from and forwarded afterwards to this Embassy. I have, &c.

London, October 6th, 1842.

(Signed) NEUMAUN.

(True Copies,)

H. V. BAYLEY,

*Deputy Secretary to the Government of Bengal.*

This was sent to the Ecclesiastical Registrar of the Supreme Court for his information and for a reply, but owing, first to the non-arrival of Mr. DeCsoma's effects from Darjeeling, and latterly to the absence of Mr. Turton from Calcutta, no answer had been obtained from him till now, when the following was transmitted :—

*Estate of Mr. Alexander Csoma DeKörös' Deed.*

To H. PIDDINGTON, Esq. *Officiating Secretary to the Bengal Asiatic Society.*

SIR,—With reference to the letter to your address from the Deputy Secretary to the Government of Bengal, No. 1256, dated 28th December 1842, together with an extract of one from the Honorable the Court of Directors No. 24 of 1842, dated 26th October preceding, and copy of the letter from the Austrian Ambassador thereto subjoined, respecting the estate of the late Mr. Alexander Csoma DeKörös, Librarian of the Bengal Asiatic Society, left by you at my office sometime ago, for the purpose of my furnishing you with the information therein referred to, I have to apologize for my not having earlier replied to it, having been left at my office when I was much engaged, and it subsequently escaped my recollection, from no letter from you accompanying it.\*

I now beg to acquaint you, that I have since received a communication from the Government of India in the Foreign Department on the subject through their Attorney, and I beg to forward here with a copy of my reply thereto, which will put you in possession of all the information that I possess on the subject, and which I have furnished to the Government.

I have the honor to be, Sir,

Your most obedient Servant,

THOS. E. M. TURTON,

*Registrar and Administrator.*

*Calcutta, Supreme Court, Regr's Office, 3rd July, 1843.*

*Estate of Mr. Alexander Csoma DeKörös' Deed.*

To T. B. SWINHOE, Esq.

*Attorney to the East India Company.*

SIR,—I have the honor to acknowledge the receipt to your letter of the 2nd instant, forwarding to me therewith, copies of one to your address from the Officiating Secretary to the Government of India in the Foreign Department, dated 24th ultimo, and of an extract from a despatch, from the Honorable the Court of Directors, dated 22nd March, No. 6 of 1843, regarding the estate of the late Mr. Alexander Csoma DeKörös, Librarian of the Asiatic Society of Bengal, and requesting me to furnish you with the documents therein referred to, in the manner required.

In reply, I beg to state for the information of the Government of India, that the event of the death of Mr. DeKörös having been reported to me as Ecclesiastical Registrar of Her Majesty's Supreme Court, I applied for and obtained letters of administration to his estate as in case of intestacy, and under and by virtue thereof, took charge of the Government Securities which remained in the hands of the Government Agent of this Presidency.

Mr. DeKörös having died at Darjeeling, the Superintendent of the station took charge of his effects, and did, under the direction of the Government, make over the same to me as administrator to the estate.

In June last year, Mr. Henry Torrens, as Secretary to the Asiatic Society of Bengal, addressed me a letter, handing to me therewith one in original to his address, from the late Mr. DeKörös, dated Calcutta, 9th February, 1842, and making an enquiry whether I, as administrator of Mr. DeKörös, with the full consent of the Socie-

\* There is some misimpression here on one or the other side, but of no great moment: either a letter was sent, or the paper was left by me personally.—H. P.



ty, would feel justified to act on the orders of the deceased, by making over the funds and effects that might come into my possession in my official capacity of administrator of the deceased, to the President and Secretary of the Asiatic Society, under their indemnity, against the claim of the next of kin of the deceased.

Although I have not yet given any official reply to the above query, yet I have personally explained to Mr. Torrens, that I am not justified in supporting the claim of the Society under the directions contained in the deceased's letter, nor am I at liberty to treat it in any manner as a valid testamentary disposition of the deceased's property to the prejudice of his next of kin with reference to the late Act relating to Wills.

The Superintendent of Darjeeling has also lately made over to me on my application, the Thibetan Manuscripts collected by the deceased, which I intended to have made over to the Asiatic Society in deposit, on the guaranteeing to take due care of them, and to return them in case the next of kin of the deceased should not assent to their continuing there, and should require such re-delivery.

I beg to forward herewith, an exemplification of the letters of administration to the estate, authenticated copies of Mr. Torrens' correspondence with this office, and of the letter of Mr. DeKörös in favor of the Society, together with a copy of the Registrar's account current with the estate, made up to the 8th instant, exhibiting a balance on that day, in its favor of Sa. Rs. 3,000, and Co.'s Rs. 2,000 remaining invested in 5 per cent. Government Securities, and Co.'s Rs. 21 : 13 : 5, in cash, and 26 gold Dutch coins or ducats, and shall be obliged by your forwarding them to the Government for their transmission to the Honorable the Court of Directors, for the information of the next of kin of the deceased.

I have the honor to be, Sir,

Your most obedient Servant,

(Signed) THOMAS E. M. TURTON,  
*Registrar and Administrator.*

*Calcutta, Supreme Court, Regr's. Office, 26th June, 1843.*

Read an application, transmitted by the Honorable Sir J. P. GRANT from Ramjoy Turlonkar, Pundit of the Supreme Court, stating, that as the Society had obligingly presented to him the first three vols. of the Mahabarata, he trusted that it would kindly complete its gift by that of the fourth volume now published. Ordered,—That the fourth volume and a copy of the Index be sent to the Pundit through Sir J. P. GRANT.

Read an application from A. A. SEVESTRE, Esq., requesting to be allowed to contribute to the subscription for the Portrait of Mr. H. T. PRINSEP, which was granted.

Read the following letter from Messrs. Allen and Co. :—

TO H. PIDDINGTON, Esq.

*Acting Secretary to the Asiatic Society of Calcutta.*

*London, 29th April, 1843.*

SIR,—We have the pleasure to acknowledge the receipt of Mr. Torrens' letter as Secretary to the Society, dated 16th February last, acknowledging several of our communications and our account up to the 30th June last. We propose to render the continuation of the account at the expiration of a year from the date of the last.

We beg to call the attention of the Society to the paragraph of the letter of the 16th February, referring to Arrowsmith's Map of India, and also to enclose a copy of the original order for it. By it you will see, we had not the liberty to act for the Society, and we therefore complied strictly with the order, and forwarded "Arrowsmith's latest Map of India of the largest size," which is more than double the size of our Map, and we concluded was well known to the members of the Society. We need not point out how much more advantageous it would have been to us to have supplied the Society with our own publication, but we should not have been justified in doing so, when "Arrowsmith's" was expressly ordered.

It will be evident to the Society, that we are not in fault in sending Arrowsmith's Map, and we trust on a reconsideration of the matter, the Society will remove the Map from Messrs. Thacker and Co., where we are informed it had been sent for sale on our account. Had we committed an error, we would willingly have borne the loss of the price of the Map, viz. £18 : 10.

The cases of books per the "*Ellenborough*" shall have our attention, they have just been received.

The books ordered in your letter of the 3rd February for the Society are not all of them procurable. No. 1 of Gray's *Spicilegia Zoologica* is only just published. Leach's *Zoological Miscellany* cannot be heard of, and we suppose it to be an American publication, it will be obtained if possible. "Andubon's *Ornithology*," &c. is not yet published. "Gray's *Genera of Birds*," will be sent with the part of his other publication, by the next ship, and will be delivered to you by Messrs. Thacker and Co.

We are, Sir,

Your most obedient Servants,

W. H. ALLEN & Co.

It was determined that under the circumstances, the Society would receive the map; and the Honorable the President intimated, that upon his arrival in England, he would forward to the Society, a first rate recent map. The special thanks of the Society were voted for this very liberal offer.

Read the following letter from Captain D. WILLIAMS, Assistant Commissioner, Arracan :—

*Ramree, June 12, 1843.*

MY DEAR SIR,—I beg to return my best thanks for the Birman Code of Law; it appears to be a collection of cases for easy reference; the *Dammathul* is a voluminous code, and is not to be obtained, I believe, complete in this province. It is arranged under distinct heads, has every other mark of being a genuine Code of Laws, and the Mugs have a great partiality and reverence for it. Seldom would they transgress it even for their advantage: for instance, mortgaged lands are surrendered to emigrants in this district after 40 and 50 years' absence, so sacred do they consider their law on this head, and they could evade it by coming into our Courts, as we give a contrary decision, by which they would keep possession: they have no Limitation Laws in such cases.

I have sent to Chedooba for the coins, and when I have received them, I will have great pleasure in sending you for presentation to the Asiatic Society two coins. There are eight in a good state of preservation, and many pieces, four of the former I

must send to Lieut. Phayre, the Assistant Commissioner at Sandoway, according to my promise.

Lieut. Phayre is a good Birman scholar, and his information regarding the "Dummasat" would be very valuable to you. He is now compiling a list of Kings of Arracan of the Mug dynasty, and of Governors of the Province under the Birmese rule, from a valuable collection of coins in his possession; its perusal will no doubt be enjoyed by your Society.

I forward to Lieut. Phayre, the copy of the Dummasat and your letter, requesting he will communicate to you his opinion.

Your's truly,

D. WILLIAMS.

Read the following letters from the Secretaries to the Government of India and Bengal :—

No. 682.

*From the Secretary to the Government of India, with the Governor General, to Secretary to the Asiatic Society at Calcutta.*

Foreign Department.

SIR,—Under instructions from the Right Honorable the Governor General, I do myself the honor of placing at the disposal of the Asiatic Society, the accompanying Report from Captain Graham, on the Manners, Customs, &c. of the people of Shoa, and an Historical Account of the Abyssinian Church by the same gentleman.

2. As these documents are originals, I have to request that you will be good enough to make them over when done with, to the Officiating Secretary at the Presidency Office, for record.

I have the honor to be, Sir,

Your most obedient Servant,

J. THOMASON,

Allahabad, 13th June, 1843.

*Secretary to the Government of India,  
with the Governor General.*

No. 575.

*From Under-Secretary to the Government of Bengal, to H. TORRENS, ESQ., Secretary to the Asiatic Society.*

SIR,—I am directed to transmit the enclosed Report by Capt. G. B. Tremeneere, Executive Engineer, Tenasserim Provinces, of a Visit to the Packchan River and some Tin localities in the Southern portion of the Tenasserim Provinces, together with a Sketch which accompanied it.

2. The Military Board, in forwarding the above Report, have intimated, that the specimens of Tin therein referred to, will be forwarded by Captain Tremeneere, when received, to the Curator of the Museum of Economic Geology.

I am, Sir,

Your most obedient Servant,

Fort William, 5th June, 1843.

A. TURNBULL,

*Under-Secretary to the Government of Bengal.*

Mr. Piddington presented a paper for the Journal, being a translation of (with remarks) M. Stanislas Julien's remarks on the study of the Chinese

Language. He also exhibited the charts to his Eighth Memoir on the Law of Storms, (the Madras and Arabian Sea Hurricane of October 1842,) now in the Press.

The Librarian presented the classified catalogue of the European Books in the Society's Library, which is now printed, and for distribution to Members.

Mr. BLYTH presented remarks on the Zoology of the Tenasserim Provinces, which will be farther alluded to in his report.

Read the report of the Curator Museum Economic Geology for June.

*Report of the Curator Museum of Economic Geology for the Month of June.*

*Geological and Mineralogical.*—We have received here, through Messrs. Allan, Patton and Co. from Major Sleeman, as executor to the estate of the late Dr. Spry, three mahogany cases, containing a considerable number of Geological and Mineralogical specimens, with a few corals, &c. some of these are in a state of sad disorder from being separated from their labels or envelopes, and evidently tossed about in utter confusion. I shall however be able, I hope, to verify the localities of most of the Geological specimens. None of these are complete series or collections, (with the exception of a small set of specimens from the Fort boring,) but a number are rare; many will fill up blanks in our cabinets, or replace inferior specimens, and are thus most acceptable to us.

I have now finished collecting from the Hoogly opposite to Calcutta, and from Burrisal at the other extremity of the Delta, two bottles of water for each month in the year, to ascertain the quantity of silt brought down by the river. I propose, with the approbation of the Society, forwarding one set of these to the Geological Society, with a request, that part of the silt may be sent to Professor Ehrenberg for examination as to the infusoria which it may contain; a question of very high interest to us here, as well as to the scientific world at home.

I mentioned in my preceding Reports, that through Mr. Hówe's kindness, we had been provided with a large assortment of the shales and mud thrown up by the Volcano of Ramree; these I have divided into eight handsome sets, as follows:—

Memorandum of specimens from the Mud Volcano of Kyook Phyoo, collected immediately after its remarkable eruption of midnight 6th and 7th February, 1843.

A.—A bottle of the mud taken in a boiling state from the crater.

B.—Half calcined mud, taken from the walls of the crater.

N. B.—In some of these specimens, fruits and seeds of the surrounding bushes are found half burnt, but not destroyed.

C.—Mud from the neighbourhood of the crater, ejected from it in the eruption.

D.—The same with grass, &c. enveloped in it.

E.—Mud indurated to shale, with veins of porcellanous (*aluminous?*) earth and calc spar ejected from the crater.

N. B.—Thin plates of this calc spar found amongst the mud; the largest in the Museum of the Society being about 6 inches by 4, and evidently detached from the shale.

F.—Indurated and laminated shale, sometimes approaching to sandstone, ejected from the crater, sp. gr. 2.5.

G.—Red shale indurated to a sandstone, (probably from the heat under pressure,) ejected from the crater, sp. gr. 2.6.

A single specimen in the cabinet of the Asiatic Society is red at one end, grey at the other, evidently shewing that they are derived from each other.

H.—Burnt sticks picked up shortly after the eruption about the crater.

Besides keeping our own cabinet well supplied, I proposed, with the approbation of the Society, forwarding these as occasion may offer as follows:—

- |                                    |   |
|------------------------------------|---|
| 1. Hon'ble the Court of Directors. | 6. University of Christiana.                    |
| 2. Geological Society.             | 7. Geological Society of Pennsylvania.          |
| 3. Société Géologique de Paris.    | 8. Academy of Natural Sciences of Philadelphia. |
| 4. Royal Cornish Association.      |   |
| 5. Sir H. T. De la Beche.          |   |

*Museum of Economic Geology.*—We have received from Lieut. Phayre, Sandoway, a set of clays from that place, six in number, and specimen of the best Tobacco soil, as also a porcelain clay from Bassein. His letter is as follows:—

*Sandoway, May 5, 1843.*

MY DEAR SIR,—I have the pleasure to send you a box, containing specimens of the clays and earths of this district. All the brick clays are from the immediate vicinity of this town. I send also a specimen of Tobacco soil from the best Tobacco district here. I am aware that you have formerly analysed Sandoway Tobacco soils, but do not know whether those were procured, as this is, from the most famous Tobacco land or not. There is no pottery of any kind made here, I am sorry to say.

The white clay is said to be that from which the well-known *Pegu* pottery is made; it was brought from Bassein. Will you have the goodness to apply on board the H. C. S. *Amherst* for the box to your address.

A. P. PHAYRE.

We have also received from Lieut. H. C. Mayne, Adjutant 4th Nizam's Horse, specimens of the salt of the Loonar Lake, with the following letter:—

*Mominabad, May 26, 1843.*

MY DEAR SIR,—In reply to your letter of March 22nd, I beg leave to forward for the Museum Economic Geology of India, a specimen of the salt of the Loonar Lake.

You will perceive that the specimen is composed of three distinct species of salt. Large incrustations of this are left all round the edges of the lake, caused by the quick evaporation of the water by the sun, and partly from the foam of the wavelets as they beat on the shore.

The situation of the Lake of Loonar, is about midway in a direct line from Jaulnah to Hingolee, longitude about  $76^{\circ} 45'$ , latitude about  $20^{\circ} 1'$ . Hoping that this may prove an addition (however small) to the Museum, I shall use my endeavours to procure for its use, any interesting and curious specimen that may come within my reach, but not being a scientific character, I may be excused if I ever forward specimens, &c. which the Museum may already possess, or of so common a description, as not to be worth having.

H. C. MAYNE,

*Lieutenant, Adjutant 4th Nizam's Horse.*

P.S.—I have dispatched the piece of salt by this day's hanghy to your address."

It is fortunate that we have in Dr. Voysey's Notes, a capital account of his visit to this very curious spot, with a sketch. It is too detailed to insert here, but will form an early paper in the Journal. Lieut. Mayne, in his chit alludes to common salt, while Dr. Voysey says, that merely traces of it were found in the water. It is evident from the specimen on the table, that common salt exists at the bottom of the lake, as well the carbonate of soda. From what Dr. Voysey says, it would appear that he visited it when the water was near the highest point, in July, and the fresh water would then lie above that impregnated with saline matters.

Having to call upon Mr. Weaver, the statuary, I requested of him the favor of sending to the Museum any fragment of marbles which he might have. He has sent us some, and in addition to them, a few very handsome specimens of petrified wood and tubicolæ dug up at Sheerness dock yard, which are a very welcome addition to our Geological and Mineralogical cabinet.

A very pretty collection of mostly South American Birds, the property of Sr. Apparuti, was exhibited for purchase. No price having been fixed, it was determined to offer for it the sum of Co.'s Rs. 150, as being one containing specimens, nearly all of which were acquisitions to the Museum.

For all the foregoing presentations and contributions, the thanks of the Society were ordered.

---











For use in Library only

